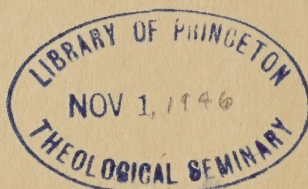


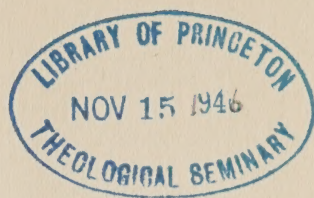
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DEPENDABILITY IN PHILOSOPHY OF EDUCATION



By
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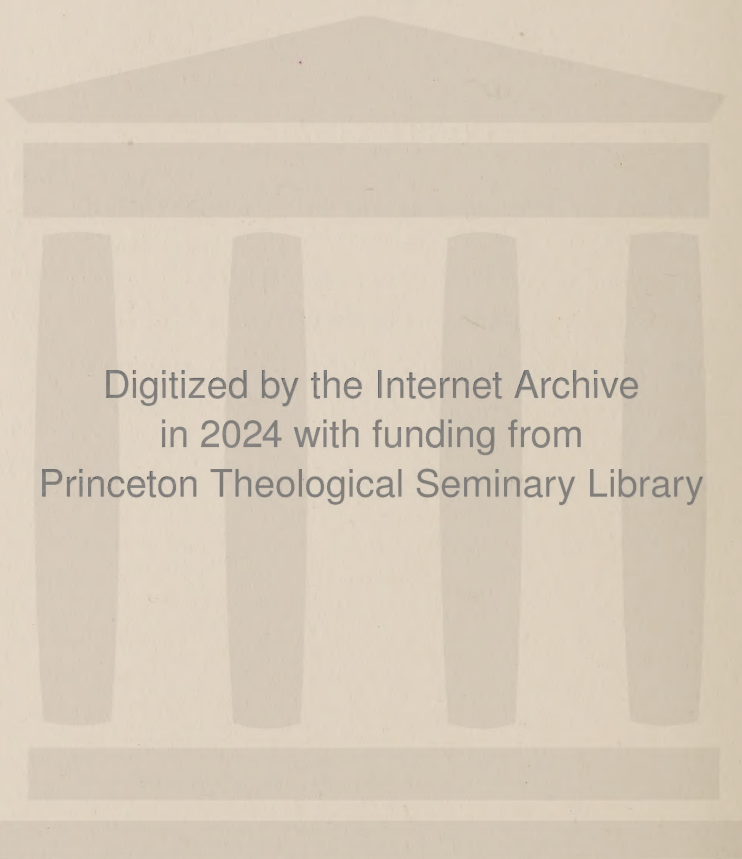
The writer is indebted to the International Institute, Teachers College, Columbia University, for the opportunity of studying education in Scotland, England, and Germany, 1928-1929. That experience gave rise to an interest in methodology in educational research.

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R. L.

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DEPENDABILITY IN PHILOSOPHY OF EDUCATION

CHAPTER I

THE PLACE OF PHILOSOPHY IN THE STUDY AND CONDUCT OF EDUCATION

To mention dependability in connection with philosophy may, to some, seem a paradox. It may elicit the response: Here is just another person trying to defend philosophy! The writer has admittedly been motivated by a conviction that philosophy is of worth. However, the attitude has been, as far as possible, that of inquiry. The effort has been to see in what sense philosophy of education is dependable and how, if possible, it may be improved. The position is taken that philosophic activities are in varying degrees dependable and that the degree is determined in large part by the conceptions, sensitivities, and ways of procedure which function in the behavior of the philosopher. Suggestions are made as to how these conceptions, sensitivities, and ways of procedure may in some measure be improved. Thus the dependability of philosophy may to that extent be increased.

But how shall we conceive philosophy? For what may we properly expect it to be dependable? "Philosophy of education" is here taken to denote, first, a branch of research. As such, it is composed of all the activities therein involved. In the second place, it means that study of educational problems which considers the more remote, obscure, comprehensive, and intertangled facts and consequences. This study may be in or along with the actual conduct of education or in courses called "philosophy of education." Philosophy of education is taken to include these total on-going processes of inquiry, constituting one phase of the study and conduct of education as they actually exist at the present time. A concrete case may illustrate how philosophy is here conceived and why it is important.

Let us think of Mr. *T*, who is a teacher of literature in a senior high school. He notices that some students make rapid progress, while others are slow; that some "lap it up" while others

"detest the stuff." Frank Smith especially has a dislike for all things literary. As *T* goes on from day to day such problems as these emerge: Are likes and dislikes born in students? Are they in part a matter of home environment, the movies, and the way I teach? How do other teachers best meet these difficulties? How much good does literature do students anyway? What difference does it really make whether Frank Smith is required to read certain books? When he leaves school, will he have an appreciation for literature and go on reading it or will he come to hate "that literary rot"? What may this mean for Frank's attitude toward the school, toward his capacity and liking for literature, and toward me as a teacher? Should society demand that students take such courses? These and many other questions arise as the events of the school move on.

Perhaps *T* is a rather unusual teacher if he recognizes all these questions. But their importance for school procedure is evident. *T* will disregard many of these problems, because he does not have sufficient time for them. But he has some friends who make a business of dealing with such problems. In fact, the problems have become so numerous and urgent that his friends have specialized their attention. Let us suppose that Mr. *S*, a scientist, and Mr. *P*, a philosopher, are in the habit of visiting *T*'s classes.

Now one morning *T* is sharing in the class discussion on Scott's *Lady of the Lake*. *S* and *P* are observing. Frank Smith suddenly throws down his book and insists that this is all a waste of time. *T* must do something. *S* and *P* are both interested. *T* says, "All right, you may go for a walk," or "Frank Smith, report to the Principal at once." This, of course, need not end the matter for *T*. He may spend many an hour studying this particular case. But all the while other complex problems are arising. Do as best he can to untangle these questions, *T* feels keenly the need for all the help he can get from his friends *S* and *P*.

S wonders why this sudden outburst on the part of Frank. He may spend several days inquiring into the causes of Frank's behavior. He may study other similar cases. In the end he may devise a special procedure for inquiring into such cases and techniques for dealing with them. His information thus derived may suggest an almost infinite number of further problems. In time his findings and those of others may be coördinated into "systems" which undergo modification and growth as inquiries go forward.

All the while *P* also is busy. The situation raises problems for him, too. He wonders what is a wise course for a teacher in such cases. What are the various factors that need to be considered? What is socially desirable? Are the various attitudes Frank forms, as the result of school procedures of which this is typical, such as will lead him into a richer personal and social life? Will he enjoy literature and find here a vital leisure-time recreation? Will it reflect itself in his personal attitude, his home life? Will he be a better or a worse citizen as a result? What does the teacher's action imply as to the habits of thinking which dominate in his practices? Do these need to be reëducated so that his future responses may be more adequate, when seen in the light of the various consequences?

As *T* thinks about his problems and discusses them with *S* and *P* and other friends, he in time builds up more coherent and vital ways of seeing these intertangled issues. His thinking is thus stimulated and checked upon, and he tries out the ideas that appeal to him. And as *S* and *P* make their suggestions and see some of them carried out, their inquiries are in a certain degree tested and redirected. They are helped by contact with *T*. Thus all together help one another to improve upon their activities in the study and conduct of education.

This illustration suggests why philosophy and science arise in education and will probably always continue to operate as special branches of research. The rapid and complex changes which occur where human individuals and groups, both within and outside the school, are involved, give rise to a constant surging-up of problems which have some elements of uniqueness. If unique in no other way, they are unique in the sense that facts have to be reconsidered and utilized in new combinations. But some new factors are constantly emerging as each situation moves forward. Persons directly engaged in the conduct of education need to be highly sensitive to what is involved. This is possible only as they are helped by those who may devote more undivided attention to these problems. Science and philosophy as continuing research activities make possible a more adequate consideration of educational problems.

The illustration also suggests how philosophy is related to the conduct of education and to the science of education.

The conduct of education may be more like art than may either

science or philosophy. *T*, the teacher, could not give careful attention to all the particular problems. Some time could be devoted to special matters, but, on the whole, attention had to be restricted to immediate issues. As a result his behavior in the school was either of a routine character, or it was more akin to art than was the conduct of *S* and *P*. In the degree that *T*'s approach and procedure in each new situation were kept flexible and sensitive to the deeper issues and possibilities involved, he was in a certain sense more an artist than the scientist or the philosopher. He could interact more directly in the growth-processes of the students. He was not concerned so exclusively with isolated relationships as with the particular movements involved in the on-going situations of creation. The "materials" more frequently reacted back upon the "artist" and both were probably intimately and complexly changed. But in the activities of *S* and *P* the subject matter of inquiry was often isolated and explored to locate more precisely relationships which actually existed, or ways of procedure which were deemed wise when more carefully and inclusively considered.

This difference between philosophy or science and the conduct of education might easily be pressed too far. Science and philosophy are also in some respects artistic processes. In the degree that a scientist does more than accept any problem that suggests itself or does more than potter about with techniques, he, too, is in a certain sense an artist. He so arranges situations that he gets data which he thinks may be significant. He uses these data in formulating conclusions and creating conceptions as to what is next important. The philosopher is artistic in the same sense, and perhaps often in greater degree. The highest expression of philosophic inquiry is frequently found in the creation of a larger wholeness of conception, of remolding current ideas or isolated facts into more significant patterns of thinking or showing how these new conceptions are more adequate. The similarity of the conduct of education to art marks it off but relatively from science and philosophy. All three are processes in which various subject matters are controlled by means of creative imagination and principles of procedure. Philosophy seems to stand between science and the conduct of education in regard to degree of similarity to artistic creation.

Now let us see what philosophy is in terms of a more detailed

comparison with science. Like "philosophy," "science" is here used to denote all the activities which occur in one on-going phase of the study and conduct of education. It is composed especially of educational psychology and educational sociology, and includes also more carefully controlled experimentation and testing in or along with the conduct of education.

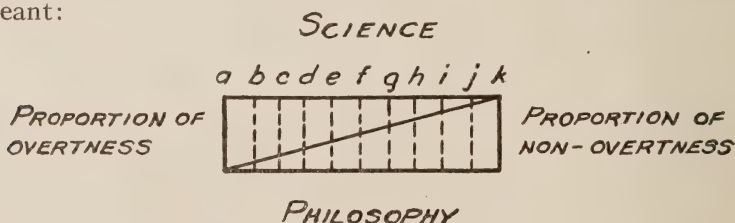
That there are certain differences between these two groups of activities considered *in toto* is obvious enough from what is being done and what results are being achieved in educational research by the two interests. Yet the similarities are so evident that differentiation is difficult. It is clear that in the two groups of activities there is much overlapping. Almost nothing that can be said about one or both of the groups as a whole applies to every inquiry in each. The differences, even in general, are of the "more or less than" sort, not clear-cut differences.

Of "science" and "philosophy" *in toto* it may be said that (1) both may become concerned with any and every problem in educational research and practice. For instance, if *S* reports on the amount of transfer from the study of literature to composition, or on ways of dealing with dislike for literature, *P* is interested to see whether these findings are consistent with his general observations and to consider whether they are really significant for school procedure. And considerations brought forward by *P* may set *S* to thinking along new lines. *S* may then set up an experiment to see whether *P*'s suggestions seem to be true. (2) Both science and philosophy have problems which fall roughly into two groups, the more "practical" or overt and the more "theoretical" or non-overt. Some of *S*'s activities were those of constructing hypotheses, theories, and interpretations of findings; others were those of actual experimentation or getting data. Some of *P*'s problems were those of suggestions for actual guidance in educational situations or search for data; others were persistent and inclusive thinking about broader aspects of educational theory. (3) Both science and philosophy in education employ hypotheses, choices, assumptions, and testings. They define or take problems which arise in some sort of experience and go through operations of inquiry and observation of outcomes.

The basis of all the differences which can be noted between science and philosophy may be said to arise from a division of labor in which science can devote its time more exclusively to

more elaborately controlled inquiry into the nature of objects, processes, and events. Philosophy is able to devote more time to criticism and construction of conceptions involved in the processes of education, in social conditions, and in any relevant developments in the scientific and the thought worlds. Philosophy is thus concerned more exclusively with criticism, theoretical constructions, interpretation, and suggestion. This division of labor introduces certain relative differences between science and philosophy.

These differences may perhaps be most truly represented by a diagram which indicates a distribution of the inquiries carried on in both. This may make it clearer that though there are differences *in toto*, the differences do not apply to every inquiry in either group. Suppose we consider the degree of reliance on overt operations, such as use of controlled groups or tests as compared with reliance on non-overt operations such as use of critical and more inclusive deliberation. It then seems probable that *in toto* philosophic inquiry involves a larger proportion of non-overtness, while in scientific inquiry a larger proportion of the operations are on the overt level. Such a diagram as this may indicate what is meant:



In this case some scientific inquiries, falling for example from *a* to *b*, are largely overt, and some, as those from *j* to *k*, are largely or entirely non-overt. The same is true for philosophic inquiries denoted by the lower line.

Now if we replace the terms "overtness" and "non-overtness" with the pairs of words and phrases which follow, some of the relative differences between science and philosophy (*in toto*) may be indicated:

- | | |
|--|--|
| 1. Overtness. | Non-overtness. |
| 2. Use of special instruments of research. | No special instruments employed. |
| 3. Careful control of variables. | Observation-reflection "in the large." |
| 4. Similar factors involved. | Widely unlike factors involved. |

- | | |
|---|---|
| 5. Special types of experience alone relevant. | Wide ranges of experience relevant. |
| 6. Distinctive subject matter: facts, existential relations, objects, processes, qualitative relations, causes. | Distinctive subject matter: possibilities, programs, preferences, points of view, consequences. |
| 7. Rigorous control of inquiry as to what <i>is</i> . | Creativity of thinking as to the desirable and possible. |
| 8. Consideration of points of view and hypotheses does not enter into the major procedures. | Considerations of points of view and hypotheses enter as important factors in major procedures. |
| 9. Problems so restricted that solutions are practically final. | Problems so inclusive that they recur with almost every significant advance in experience. |
| 10. Decisions may be postponed for more careful inquiry. | Decisions may be required for almost immediate action. |
| 11. Truth-falsity the dominant value. | Fruitfulness the dominant value. |

Such comparisons are dangerous as well as helpful. Let us elaborate a few of these points to see what each means in terms of the illustration given at the outset.

1) *Overtness*. While *S*, the scientist, had to do a great deal of thinking he relied in larger degree on operations he could perform with the actual materials of the situation outside himself. The nature of his work led him to devise tests, examine in detail the causes of the dislike for reading, study "best present practices," and the like. Let us not, however, be unjust to *P*, the philosopher. He, too, was relying upon features of the situations he studied and on much experience gained in actual educational affairs. He was free to devote weeks to studying various points of view and data in regard to the relations of the individual to the state, the various theories and evidences on the fundamental nature of human behavior, and the like. But his reliance was proportionately more upon persistent critical reflection.

2) *Control of Variables*. *P*'s ability to think about his problems rested basically on capacity to discriminate among various factors in the situation, to see the various demands of society, to recognize what was needed for Frank's further development, and so on. Only thus could these questions be dealt with and ways of procedure be suggested. But *S* had at his disposal certain mathematical techniques, ways of classifying, and procedures for overt control. When he was able to develop and use such techniques he employed more stable and definite units and operations. He thus got more exact control over *some* of the variables.

So far as the division of labor between science and philosophy makes these techniques inapplicable in philosophic inquiry, operations of selecting data and experimenting with them in thought and action will often be less precisely controlled. While the high degree of control at some points (especially in the more predominantly reflective phases) is to be recognized, it is still true that on the whole philosophic control is "in the large." This will probably always be true when compared with the possibilities for control in science, even when we recognize that there need be no limits to the improvement of control in either group of activities.

3) *Extent of Experience.* Some inquiries in both science and philosophy refer to very wide ranges of experience as data and as test. Other inquiries of both science and philosophy refer to very specific and restricted areas. If *S* studied the amount of transfer from literature to mathematics under certain specified conditions, the pertinent experience was probably restricted to a relatively small number of responses on tests. But when such data were secured he may have considered them in relation to a wide range of other data in order to formulate a theory about transfer. In either case *P* may have examined *S*'s findings and theories in the light of his own experience to approve or criticize. But this shows how in even the more restricted philosophic inquiry the wider range of experience is drawn upon for sources of suggestion. At the less restricted end of the scale, philosophy may consider a much wider range of experience. In deciding whether it was wise to require the study of literature one may properly consider individual differences, observations on the effects of requiring this or other courses, considerations about the "needs" of society, and one's conceptions of the good life. On the whole, philosophy seems to deal with a wider range of experience than does science, despite the fact that in some instances the reverse may be true.

4) *Subject Matter.* It is clear that *S* was usually concerned to find some actual causes or relationships. He was seeking first and last for the facts. The "possible" entered only in relation to discovering the facts. He had to exclude his personal preferences in the matter, except the master-preference for accuracy. Of course in deciding which lines of inquiry would likely prove "best," his point of view would enter, sometimes in a most important way. But once the choice was made inquiry was "good

science" in the degree that it excluded the personal equation. The procedures of *P* might likewise be distributed along a scale, but the greater number would seem to fall at the end where the diverse possible outcomes were taken into account. He was more often seeking to formulate a program of action consistent with a total view in which the various consequences were duly considered.

5) *Control and Freedom in Thinking.* Though *S* was free to range about in his thinking as zestfully and inclusively as he wished, his attention tended to center more and more on what really was the cause of Frank's dislike for literature, just how much transfer there would be, and the like. As *P* dealt with his problems he could not disregard the causes and consequences, but his thinking more often moved to consider among these an ever wider range of factors. He was thus not restricted so much to consideration of present existences only. He was more often concerned with seeing what trends in Frank's behavior suggested ways of *developing* him into a personality more significant for society, not merely as he was but as he might become. In doing this *P* should not have disregarded the "is-ness" of things, the actual nature of the situation. He should not have seen visions and dreamed dreams unless he could point to evidences which indicated that he might move in the direction of realizing them. Thus the degree of restriction of thinking to the *is* as compared with creative projecting of the possible is here again a relative one, not true in every case.

In connection with this point we may briefly note a number of other relative differences which distinguish philosophy from science. In science the thought-movement is more frequently that of eliminating wish and preference from consideration; in philosophy the thought-movement is more often one of seeking an integration among wishes and preferences. In the former the chief concern is predominantly with facts as facts; in the latter the main interest is more often in building up a more integrated experience which helps in so making decisions that various diverse values are given the best place possible when life is seen in these larger units and aggregates. Thus, in science, testing is more often possible in terms of specific and definite operations which indicate what existent relationships are; in philosophy, testing is more predominantly a matter of weighing aggregates of considera-

tions together, even when suggested modes of actions are tried out and their consequences are observed.

As a result of the interest of science in particular facts it often abstracts more fully from the larger whole of experience. It may build its findings up into wholes of interrelated facts and again return to the life situation to see whether it has omitted important features, but this is more often done for its own purposes. In philosophy abstracting also occurs, but it is more frequently for the building of a larger whole of conception or a mode of practical action. This general purpose of getting a whole for thought or action often leads philosophic inquiry to select among the facts, and it may on occasion examine particular facts which are felt inconsistent or inadequate as a result of familiarity with the larger wholes.

6) *Treatment of Point of View or Hypothesis.* While we may not overlook the fact that when *S* studies transfer from literature to mathematics his point of view operates in his selection of this problem as significant, yet, once the problem is accepted the point of view, as such, is put aside as far as possible. Similarly, particular hypotheses about the amount or manner of transfer may set the study off or be held while the study goes forward; but if they are allowed to enter to influence what is found, the procedure ceases to be scientific in that degree. On the other hand, in the philosophic procedure the point of view often enters more intimately and fully as a factor. Here, too, decisions reached may in varying degrees be tested in further experience. But so far as decision making is more often predominant here, and is concerned with larger aggregates of factors, the point of view with reference to these factors enters and undergoes reconstruction more intimately and constantly. This again is a matter of degree, and varies with the nature of the inquiry or decision.

7) *Inclusiveness of Problems.* In science the problems are frequently restricted and outcomes are stated in terms such as these: "If these conditions exist, then this happens," or "If the child has an I.Q. of 100, we may expect so much transfer, all things being equal." When so restricted, scientific findings tend to become more definite; some problems seem more finally settled. New interpretations may arise, but the meat of the findings remains rather constant. But in philosophy the factors are so diverse and complicated that almost every significant ad-

vance in science or change in social situations sends reverberations through the whole of philosophic viewpoints. Advances in child psychology have thus permeated our educational outlook. The problems here tend to recur with every generation, though some conceptions arising in philosophic theory are later taken over by the scientists and continue to be fruitful in the conduct of education.

8) *Urgency*. The element of urgency is sometimes stressed as a, or *the*, distinguishing characteristic of philosophic inquiry.¹ Philosophy, however, is no more the slave of urgency than is science. In both cases problems are always in some degree urgent; that is the nature of a problem. If *T*, the teacher, wished to use scientific procedures in finding how effective his teaching was he could not postpone the inquiry until the next year. He had to use the procedures in the stride of school events as truly as he had to use philosophic procedures if his decisions were to be carefully made in their broader aspects. If the inquiries and decisions made were hasty and not well considered they were neither scientific nor philosophic in any distinctive sense of the terms. They were just more or less arbitrary choices or snap judgments.

The notion that all philosophic inquiry is more urgent than scientific inquiry seems to arise from failure to recognize that both science and philosophy have become special branches of research. As such they may both take problems aside from the scene of necessary action and study them in more detail. Such problems as the emphasis to be put on various particular subject matters or methods of procedure in the school persist from generation to generation and must in some degree be answered anew in view of new social conditions. But in the actual conduct of education action always goes forward on some sort of assumptions (conscious or unconscious). Thus, to act wisely the teacher or administrator must do his best to make his assumptions explicit and to consider well the diverse demands. Such study of problems is going in the direction of philosophy and may be considered "philosophic." In this sense more problems which are urgent may properly be classified in philosophy than in science.

¹ Cf. Kilpatrick, W. H., "The Relations of Philosophy and Science in the Study of Education," *School and Society*, Vol. XXX, No. 759, July 13, 1929, p. 41; Kelley, T. L., "The Scientific Versus the Philosophic Approach to the Novel Problem," *Science*, Vol. LXXI, No. 1838, March 21, 1930, p. 298.

9) *Value Stressed.* The truth-falsity value permeates both science and philosophy. Whether in discovering the amount of transfer or in deciding what the outcomes will probably be, the scientist and the philosopher of our illustration are both trying to get at the "bone" of the matter. Moreover, such values as those of stimulation, release, energizing, repatterning of thinking, directing of thought and action, and the like, are pervasive in scientific as well as in philosophic activity. A scientific finding or theory may be for the scientist in turn something to be tested as to truth-falsity, something which stimulates him, and an object of aesthetic joy. But the master-value is that of truth-falsity. Is it true that Frank's parents try to force him to study literature, that this is the exact quantitative relationship or an accurate account of what happens here, that these operations are exact and crucial? These are the prevailing types of question in science. Philosophy also seeks the truth. It may be that truth-falsity is its master-value. Yet so far as stimulation of further thought and action constitutes a larger part of the function of philosophy, the other values mentioned should also be present in fuller degree. Philosophy fulfills this distinctive function in the degree that it helps to release us from our cyst-like thought-patterns, illumines our outlook, catapults our imagination into new vistas, points attention in new directions, integrates ways of thinking, or operates as the making of critical and creative decisions amid contending possibilities. The stimulation of further critical thought and action thus seems a more prominent value in philosophy than in science.

Let us here summarize the relations of science and philosophy. The multiplicity and complexity of problems in human affairs give rise to divisions of labor in the study of them. Science and philosophy are specialized groups of activities continuous in their operations. The same fundamental factors are present in both groups but vary in degrees of prominence. The factors predominantly present in science appear in lesser degree in philosophy and vice versa. Though these differences exist, the general procedure in both science and philosophy is that of problem-solving in which choices, hypotheses, data, and testing are present. Specific inquiries in both are processes of greater or lesser complexity and duration.

Thus far we have considered philosophy of education in terms

of its activities in their relations to the activities involved in the conduct of education and to the activities in science of education. Let us now see philosophy from the standpoint of its functions as an on-going process. This may show further the nature of the activities involved in the process and their effects on those who persistently engage in them.

When considered thus as a phase of or a process in the study and conduct of education, philosophy may be said to be performing three vital functions in education. First, it is contributing to the development and formulation of conceptions and points of view which aid in dealing with educational problems. Second, it is helping to build sensitivities to basic issues, possibilities, and complexities in such matters. In the third place, it is assisting in the building of habits and methods of procedure in educational affairs. How philosophy thus contributes may be seen in a preliminary fashion in what is taking place in the growth of some educators in training, of some educators in service, and of those who are doing research in philosophy of education.

The educator-in-the-making facilitates his development at some points by studying actual and typical problems, seeing what the various crucial issues are, exploring these issues, noting the connections of these problems and their issues with other problems, and trying to formulate plans for further inquiry. Obviously, this is only one part of the professional education of one interested in such affairs. And in a certain sense the process is integral to all the processes of his professional development. But the degree of specialization now prevalent, and inevitable, in the inquiry into and teaching of particular groups of facts makes some such process necessary as a specialty. In courses aimed to perform this function it is possible to get representatives from the various departments of special study. Discovery and discussion of crucial educational problems thus give opportunity for the impingement of various points of view. As long as this process is kept on the level of genuine recognition and consideration of differing points of view, there is stimulus to the reorganization of ways of looking at problems in their formulation and in their relations to other problems or points of view. Gradually feelings, sensitivities, outlooks, and conceptions become repatterned. The importance of seeing problems from various points of view and the means of doing so are recognized and built into habits of

thinking and feeling. Methods of procedure in inquiry and deliberation may become more clearly recognized and built into ways of response. Thus, philosophizing helps in the building of concepts, sensitivities, and ways of procedure.

A similar process is evident in the case of some teachers and administrators in service. When problems which arise are detected and treated in relation to various possible modes of procedure and in relation to outcomes which are likely to follow, a process of philosophizing is under way. The points of view, the conceptions, and the treatments of similar cases which may be known or available may be of assistance. At any rate such deliberation carried into intended action, with observation of outcomes, builds sensitivities to possibilities as they arise or can be created. Conceptions are groped into being, reshaped, and tested in on-going experience. Habits of response are formed and methods of procedure become recognized. Here again philosophy helps.

One who devotes his time chiefly to research in basic conceptions and problems in education goes through analogous processes. He keeps, as far as possible, in vital contact with experiments and practices under way. He singles out certain problems for more thorough study. He explores relevant suggestions from the special sciences and from social and personal experiences. With the aid of these he seeks a clearer conception of the problems. His function as examiner and clarifier of such matters sets the particular sort of treatment to be given the problem. But in the process his own conceptions undergo change, he is made sensitive to new ways, and he builds up habits of so dealing with such issues that various relevant factors are considered. His formulations may help others with such matters. Viewpoints are thus co-operatively expressed, extended, and clarified. They become more or less systematized. They assist, positively or negatively, in guiding and stimulating further inquiry. When carried into action, further observations and reflection in some measure test and reconstruct previous conceptions. The philosophizing process thus assists in forming conceptions, sensitivities, and ways of procedure which are new for the study and conduct of education.

This brief delineation of the operations carried on in philosophy of education should make it clear that the term as herein used indicates an on-going process, whether it occurs in more or in less

specialized educational experimentation or study. It is inquiry which considers as far as possible the various relevant factors involved especially in problems of conduct and theory, deliberates to decisions about them, and studies the consequences which follow in thought and action. Yet it is not a single inquiry, but a continuing series of inquiries. It is inclusive searching and thinking functioning and accumulating from situation to situation. It is the functional "constructs," or integrated attitudes and conceptions, which constitute viewpoints. It is a sort of inquiry functioning from event to event, with the products which are built up therein. These products are sensitivities, conceptions, and modes of procedure. They help, in varying degrees, to make subsequent responses (habitual and deliberative) more fruitful, to enrich the quality of thinking, to stimulate further thinking, to make responses more acute, stable, and facile, to guide conduct, and to enrich experience.

We may conclude by saying that philosophy is dependable in the degree that this on-going process is fruitful. So far as it makes us more adequately sensitive to the intertangled causes and consequences involved in education and builds up ways of thinking and modes of procedure which lead on to more precise and comprehensive formulations and richer educational experience, philosophy of education is performing its more distinctive functions. This process can be kept more vital by intimate interaction with the activities of science and the conduct of education; yet it contributes distinctively only as it dares to make its own special inquiries and to express the deepest convictions which emerge from them. Philosophy is a member of the whole body of education within which it is an integrally related process. As such it contributes, well or ill, to the welfare of the whole. It functions as a specialized process of criticism, theoretical construction, interpretation, and suggestion. It thus helps to re-pattern and build conceptions, sensitivities, and ways of procedure in the study and conduct of education.

CHAPTER II

DELIBERATION AND THE PROBLEM OF DEPENDABILITY

We have seen that philosophy of education should, as far as possible, be dependable as an on-going process of criticism, theoretical construction, suggestion, and interpretation. The problem here arises, what determines the degree of dependability? What determines whether specific suggestions or conclusions will be fruitful? What determines whether specific criticisms or constructions will prove to be sound? What determines whether the whole on-going process of philosophy will have a maximum of fruitfulness with a minimum of waste? And how, in the light of the answer to these questions, may philosophy be improved? Thus we turn to two problems. First, what determines the degree of dependability? And, second, how may improvement come?

There are clearly many factors that determine the degree of dependability in philosophy. There are so many, in fact, and they operate so complexly together, that philosophical inquiry and proposals are always risky. Advances in the sciences, changes in social conditions, and further outcomes of experience may radically modify or condemn present proposals. Philosophic theories of the past, like those of science, often look like a heap of discarded rubbish. It is extremely difficult, for instance, to discern wisely all the factors which predominantly determine what constitutes the good life or what is an adequate conception of the relation of the individual and the state. Moreover, the thinker's particular social experiences are most important matters, as the history of human thought shows. Ways of thinking, biases, wishes, fears, personal interests, and the like, stand out as crucial factors which tend to determine the dependability of philosophy. These, with the limitations of time and the complexity of his problems, do not put the philosopher in a position to guarantee his wares. He may perhaps improve the conditions for dependability, but he

is never absolutely sure of his conclusions. The complex precariousness of human existence makes difficult and dangerous all more inclusive thinking.

But man is not entirely the puppet of time and chance. Some of the factors we mentioned lie more in hand. In philosophic inquiry they lie even more "in head." The whole organism and its interactions are involved, however. A convenient classification of the factors involved in data-getting and critical thinking is that of conceptions, sensitivities, and ways of response. Such factors as are commonly called thought-patterns, meanings, concepts, percepts, points of view, biases, stereotypes, motives, purposes, wishes, attitudes, fears, habits, methods, and the like, are summed up under these three terms. In philosophic inquiry these are especially potent determiners of dependability. Their power in science is seldom adequately recognized. The situation seems to require a closer examination of these factors. In the degree that these may be improved, increase of dependability may be secured in both science and philosophy, as well as in less specialized inquiry and decision-making.

The need for emphasis on these factors lies in the fact that we commonly think of the improvement of dependability of inquiry as a matter of increase in the precision, consistency, and adequacy of the operations performed in making scientific experiments, in selecting data, and in dealing with data. The dependability of these operations (and our confidence in them) increases with the improvement of instruments, techniques, and formulae in on-going investigation. We continue to use those procedures which function helpfully and consistently, or we give special attention to the improvement of them. But such consideration of the conditions necessary for increase in dependability usually leaves out of account the need for improvement of the more elusive and less apparent processes of deliberation which are involved, in some measure, in all inquiries.

In the case of inquiry into simpler and more "concrete" objects and processes, the functioning conceptions, sensitivities, and habits of the inquirer often play a less obvious rôle. The purpose is, we say, to find out what is *really there*. Presuppositions are put aside as far as they can be, or they are taken as hypotheses to be verified in the course of actual inquiry. It is thus often true that the factors which play such a large part in thinking do not appear

problem: Does it make any difference how motivation in learning is secured? Is interest which arises within some purposeful activity of the child more effective for learning than motivation which comes from the outside in the form of rewards, approvals, and the like? These questions may be represented by the arrow marked 1. This may raise another question, 2: How can this be tested? Here a sort of sub-process represented by the small circle, *a*, at the intersection of 1 and 2 may ensue. Suppose it is thinking such as this: "Use control groups and vary the type of motivation. Test at the beginning, equate the I.Q.'s, keep teaching as nearly uniform as possible, and test at the end." (All these various suggestions may occur to the experienced research worker almost in a flash as some such concept as "controlled group experiment" or "scientific procedure," or they may not be named at all. These are then elaborated with reference to the needs of this situation. But an inquirer who has not mastered such ways of thinking must seek them and master them.)

Here various possible ways of performing the experiment may be thought about. Let line 3 represent a procedure which is at present under most favorable consideration. Now something in the thought-situation raises this question, 4: Is this really an important study to carry through? Is it likely to solve the problem? Thus a second or third sub-process, *b*, arises. (Note that there may be almost no attempt to predict even the kind of data that will be found; it may merely be assumed that any data are of worth if got by a rigorous use of scientific method.) Here a considerable body of functioning attitudes may enter to modify the process, if they are present in this particular investigator (or group of investigators). Suppose the suggestion, 5, to test the effect of motivation in the learning of one school subject, such as English, be accepted as a worthwhile and valid procedure. Thinking may then move on to set up the experiment. This gives a procedure along line *A*, which we may assume leads to actual performance of the operations necessary for carrying through the study. In this case the experiment will deal with one sort of academic learning as the test of the various theories of motivation.

But suppose that at point *b* the investigator is sensitive to the point of view that there are various learnings going on at the same time, and that to test motivation a wide range of outcomes

must be considered. In view of this he may think as follows: "All the various attitudes the learner forms toward the school and toward himself are important. So is the disposition to coöperate with others. Before any theory of motivation can be tested adequately all these various outcomes must be considered. The experiment must be one which gives a comparison of these more inclusive outcomes under various procedures." Thus the suggestion, 5, is thrown out and another, 6, is considered which eventuates in a study set up along line *B*. It moves on to frame a scheme for controlled group experimentation with two entire schools. In one, motivation comes through best use of systematic presentation of subject matter and such tests as help the learner to compete with himself and with others. In the other there is an attempt to get under way and to direct activities judged as of worth by both pupils and teachers.

Without exploring further the intricacies of such a process of deliberation involved in the pursuit of fact, a few characteristics may be pointed out:

a) The amount of deliberation may be considerable, but there is grave danger of assuming presuppositions due to reliance on method as itself sufficient.

b) Conceptions and sensitivities enter and function here. Once the problem is accepted as of worth, attention is consumed chiefly with the reliability of procedures. But whether it is so accepted depends in part on the concepts and sensitivities which function in the thinking about the problem.

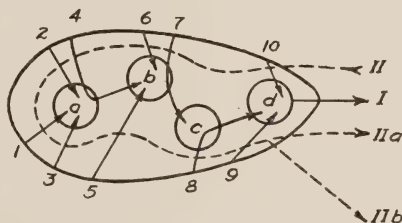
c) Different conceptions and sensitivities may give widely different direction to a scientific study of the same problem. There is need for critical examination of the basic conceptions, as well as for experiments calculated to throw light on the various possibilities.

d) The final outcome directs attention primarily to the nature of the present existential event or process to be studied. There is usually little attention to diverse and disparate demands, except as variables to be controlled. But in a real sense the conclusion is made as a resultant among factors composed of past and present experiences as remolded, scrutinized, and projected in the process of thinking.

Now suppose a somewhat different type of deliberation where fact-finding is not the chief concern. Let us think of a case where

a choice must be made among very disparate factors. Suppose a school principal has before him the problem of choosing teachers for a new school to be founded along experimental lines. The problem arises: What kind of teachers should be selected? In most such cases the general purpose and the conceptions favored by the parents will so guide their selection of a principal that he will tend to answer this question with reference to his and their underlying accepted (often rather unconsciously accepted) notions about education. But let us suppose that there is some difference of opinion among the parents and that the principal himself comes from a somewhat different type of school experience. A genuine problem arises as to what qualifications are most desirable.

The course of deliberation may be inscribed as follows. The numbers indicate a hypothetical order in the process of thinking to a conclusion.



- 1) "What kind of teachers?"
- 2) Strong desire to make a good showing as a preparatory school. Outcomes on examinations are felt as a minimum basic aim. Some of the parents strongly support this desire.
- 3) "Get the best teachers" (of subject matter). (This may precipitate the decision without even a challenge to the soundness of the procedure unless 4 arises.)
- 4) A feeling that other considerations are involved here. (This may come in part from demands of other parents for a different type of school.) There comes a recognition in sub-process *b* that passing the examinations is only one desired outcome. Thinking moves on to make explicit the other possibilities. (This may be facile, or slow and painful, depending in part on previous thinking about such matters and upon the degree in which underlying principles have thereby been habituated or associated in memory.) Such factors as 5 and 6 are thus brought into the arena of thinking.
- 5) Felt-recognized importance of the development of creative powers in thought, artistic appreciations, skills, etc., for personal adjustment and social progress. (This recognition may come in another sub-process of thinking or as a deposit from previous thinking.)

- 6) Felt-recognized importance of the social value of the disposition and ability to participate in group purposing.
- 7) "What are the real issues here?" (This question may lead on to sub-deliberation *c*, in which there may be a questioning which calls for many factual data about the nature of the human organism or the social consequences which follow from various school procedures. Any one of these questions may call for some inquiry which goes beyond the present process of thinking to get data, thinking in the meanwhile being suspended as far as this particular question is concerned. If relevant facts are not available the thinker may try, to a certain extent, to see what they most likely are in the light of related experiences.)
- 8) "How proceed so that these diverse demands are best met?"
- 9) "Proceed by use of a purposeful activity program, because a separation of mastery subjects from creative subjects or activities generates a split in the interests of the child. They tend to divide attention, unless the need for mastery of the basic subject matter comes as a felt-need from activities in a social context."
- 10) "No, the funds available will not permit hiring teachers with such ability as this program (in 9) demands. It is better to start with a plan that requires thorough mastery of a small range of basic knowledge, habits, and skills but which gives considerable time to creative activities. As teachers gain skill the mastery may be brought in increasingly with the creative activities." This may precipitate the deliberation along line I. This decision may be reenacted in deliberation before a final decision is made if the need for action is not too urgent. Such a process of re-examination is denoted by line II, which on further consideration may either confirm line I (as in case of II*a*) or may modify, annul, or diverge from the previous conclusion along II*b*.

Various observations about such a process of deliberation may be made. A few which seem peculiarly noteworthy here are:

a) The factors being considered are numerous and so widely separated in kind, importance, and duration that they can be considered *as a larger whole* only in a process of thinking. The decision reached can be carried out only in a less exact and approximate fashion. More rigorous scientific control is impossible or very difficult. This does not overlook the almost constant need for reliable data. In fact, the outcome will depend in some considerable measure on familiarity with "scientific" data and with the actual state of affairs in the present situation.

b) It is easy to be so dominated by the apparent weight of some considerations that others are not adequately taken into account. (Once problems have long been thought over in previous situations attitudes and conceptions get built up. These tend to function as stimuli and guides in subsequent thinking about such problems.)

Here, as in the first case of deliberation, functioning concepts and attitudes may operate either as dangerous sources of distortion or as helpful guides. These, as well as "the facts" in any new situation, must therefore be examined and reexamined.

c) The course of the process of deliberation is guided by sense of the purpose, by factors derived from the nature of the present situation, and by sensitivities and conceptions now potentially functional. The general purpose is to get some procedure which takes into account, as well as it may, any factors (desire of parents, what is conceived as "good" education, etc.) which may be considered to assure success of the school. A "sense" of the present situation indicates some factors which must be considered; for example, the age and social status of the children, the funds available, the particular desires of the parents, and so on. In this case the factors are considered in the light of sensitivities and conceptions which operate in the thinking of the principal. The purpose, the nature of the present situation, and the concepts and sensitivities potentially functional all enter to direct and undergo change in the course of deliberation. Differences in any of these conditions may make very great differences in the decision reached.

d) The final decision is a sort of resultant among all the demands which come to be regarded as most significant. They are taken into account in such a manner that the thinker is best satisfied with the place given to each. He "goes out toward" some suggestions and discards others. He shapes up a decision which he finds best meets the demands of the present situation, all factors considered, though his own personal desires may or may not be satisfied.

These two cases of deliberation may show more vividly why we stressed, at the outset, the influence of conceptions, sensitivities, and ways of procedure which function in the behavior of the inquirer. Let us here consider these factors in terms of the cases just cited. We may thus see more clearly how deliberation can be improved.

The place of conceptions was evident in both cases. Conceptions of the nature of the child and of the educative process, for example, operated to influence the outcome in each instance. In the deliberation involved in fact-finding one thinker conceived the learner as making only one response at a time. He did not

realize that mastery of one unit of subject matter may not be a measure of the multiple outcomes. The thinker who took into account other conceptions which functioned powerfully in his thinking set up a very different experiment to get the facts. In both cases the concepts potentially and powerfully functional operated to condition the decisions made.

The rôle of sensitivities was also evident. No defense need be made of the conclusion that in each instance the dependability of the outcome was in part determined by the sensitivity of the thinking person (or group) to relevant tested knowledge and to the nature of the situation under consideration. The more thorough the familiarity with these and the greater the ability to select relevant data, the greater the chance for good thinking from this angle. But this is not merely a matter of knowledge of the results of scientific investigation. It is often partly a matter of sensitivity to the complexity of the factors involved, and a disposition to consider these together as constituting data more extensive than particular facts so far derived. This was especially true in the second case cited above. The school principal had somehow to consider together a number of complex factors. In the degree that he was sensitive to the various issues involved he was in less danger of making an unwise decision.

The habits and methods of procedure which operated in the processes of deliberation cited were also clearly important. To the extent that the thinker was not habituated to search for the actual conditions in the situation by careful examination of the various factors to be taken into account, deliberation tended to be hasty, partial, and prejudiced. Such habits and methods as are implied in the terms "persistence," "critical-mindedness," "suspension of judgment," "care in the use of concepts and of data," "reëxamination of logical consistency," and the like, would clearly operate here as they do in all our familiar plan-making. In the degree that the thinkers were habituated in such modes of procedure and were effectively aware of the need for care and skill in shaping up decisions, their procedures would less likely go astray. These factors in some measure influence the course of deliberation.

The cases cited indicate only what is true of conceptions, sensitivities, and ways of response in general. These factors arise from previous experiences or through present observation or

thinking. They may be in part rather incidentally incorporated into the experience of the thinker, or they may be the products of much careful inquiry. In any case they operate as integrations of meanings, attitudes, and habits which influence the course of deliberation. These functional factors constitute the "kit of tools" and "frames of reference" with which and within which thinking functions. These terms are too mechanical. For the "tools" and "frames" grow up and undergo frequent (one may say almost constant) modification. All thinking functions with, and in, and in the making of such conceptual, attitudinal, and habitual factors. Some of them, like Topsy, just grow up, and are determinative in influence though the thinker may be quite unaware of the fact. They are factors which vitally condition the course of reflection in both fact-finding and practical decision-making.

The cases cited above may appear a bit isolated. But if the place of conceptions, sensitivities, and ways of response is important in instances where we are able to abstract our decisions almost indefinitely from the scene of necessary action, their significance is even more striking when processes of deliberation are seen as playing an immediate rôle in on-going life. Not only do conceptions, sensitivities, and ways of response accumulate and function from event to event, but it is practically impossible to scrutinize all of them carefully in every decision. Moreover, in many instances our aim is not merely one of getting precise relationships, but chiefly that of discovering or contriving a mode of thought or action which leads on to a better state of affairs, "all things considered." So seen, the need for more reliable data is but one aspect of the problem of improving dependability; there should also be frequent reëxamination and reconstruction of the conceptions, sensitivities, and ways of response which function from decision to decision, from observation to observation. There is need of the improvement of the quality of the factors which interplay in thought and for the development of artistic skill in bringing these into the arena of deliberation to find or create a wise way through the various demands or possibilities.

These conditions are highly significant for the problem of dependability in all kinds of inquiry. The importance of improving the quality of thinking is thrust into the foreground. It is crucial in both scientific and philosophic investigation. The problem of

dependability in philosophy is especially that of the hygiene of such inquiry as gathers data inclusively and incubates them in the light of the more fundamental as well as the more immediate problems of society. The conditions necessary for richness in suggestion and wisdom in control, of both group and individual deliberation, are central concerns.

The problem of increasing dependability in the total range of deliberation thus clearly centers in the removal, as far as possible, of the causes of error in inquiry and the improvement of the conditions which foster creative and critical thinking. Such roots of error as spring from prejudice; conceptions which are partial, too "complete," or distorted; lack of familiarity with crucial data and ways of thinking; inadequate habits and poor hygiene of the thought process; assimilation of new situations to old conceptions, and the like—all these are recognized as evils to be diminished.

On the more constructive side of the improvement of deliberation such labors as the following become important: (1) Cultivation of a richer store of experience made flexible and crucial through careful reflection, further observation, further reflection, and so on endlessly in the study and conduct of education. (2) Weeding out and improvement of conceptions. (3) The formation of more adequate inquiry habits and concepts, such as the need for examination of underlying assumptions, the importance of cross-fertilization of viewpoints, the significance of concepts about method and their habituation and fixing in memory, the way a point of view operates as a selective factor in direction of attention and making of choices, and the value of an experimental attitude in observation, study, and reflection.

In the degree that such causes of error can be reduced and more adequate thought patterns made functional, the dependability of inquiry may be improved. Where shall we turn for such improvement of concepts, sensitivities, and ways of procedure?

There are three interrelated sources for such improvement: "ordinary" experience, science, and philosophy. In ordinary affairs conceptions, sensitivities, and modes of response spring up and undergo varying degrees of adaptation. One has but to look at any vital human interest to see this fact. The activities of church, school, civic, or home enterprises develop ways of thought and action which serve, well or ill, the purposes of life. This

first source of "improvement" is so familiar as to require no further mention here.

The value of the sciences and of science generally for the improvement of deliberation is inestimable. Science contributes largely by supplying more reliable data and providing a model which suggests the broad outlines of the operations through which all inquiry must go if it is to be recognized as most dependable in the long run. As a model, science impresses upon us the need of getting the facts and of careful reëxamination of the operations performed. For instance, in the case of making the decision about the kind of teachers to hire, the principal was scientific in the degree that he sought to know thoroughly the actual state of affairs rather than to isolate himself from the situation and to spin an imaginary solution to a problem conceived "as it might be." And in the degree that he sought to rescutinize the course of his thinking, he was doing one thing which a study of scientific procedure emphasizes as necessary for reliable inquiry. Science contributes conspicuously to the improvement of deliberation by supplying more adequate data and by habituating us more fully in seeking evidences.

But the value of science, in the narrower sense of a more specialized branch of inquiry or more exact method, is limited. Special tasks keep the scientist so engrossed with detailed researches that his functioning concepts often go uncriticized in any more inclusive or fundamental way. It is a commonplace that many "scientists" are most uncritical with reference to matters outside their own specialties. The performance of scientific research in more limited fields is no guaranty that "the scientific method" will predominate in ways of thinking about immediate personal and social problems. The questions of what experiences are of most worth or how one shall influence his loyalties and devotions, for example, in relation to home, politics, or community enterprises, may not be considered in any thoroughgoing fashion. The mere possession of facts, no matter how extensive and complete, cannot solve these problems. Such facts as are available must be considered together with tendencies and conditions discerned in on-going events. These must be used to repattern vitally our current conceptions, attitudes, and habits. The performance of this function is so important for the guidance of group and personal action that another special branch of inquiry is

helpful. The need warrants a division of labor and the application of some such term as "philosophy" to this special area of criticism and theoretical construction.

When philosophy is seen as a special group of activities concerned with criticism and construction of concepts and points of view which serve to guide our further thought and action, it, too, is a source for improving inquiry and deliberation. It performs this service chiefly as it reconstructs, weeds out, extends, and integrates our ways of conceiving data, our potent concepts and attitudes, and our habits and methods of procedure. It helps us to loosen up our ways of thinking, to break through our current abstractions, to raise the bases of our action from the limbo of dominating assumptions into the conscious rôle of functioning hypotheses. It assists us in repatterning our sensitivities, biases, conceptions, and ways of procedure. It helps to provide us with a richer store of more precise and comprehensive thought patterns which make suggestion more fertile and crucial, and which give guidance in new situations. It helps us in the building of points of view which operate as vantage points from which we may the better see our problems. It gives us practice in the art of deliberation where diverse demands press and multiple interests challenge. Philosophy so helps to make more adequate the conceptions, sensitivities, and ways of response which function in our behavior.

Since deliberation is the crucible of all intelligent inquiry, science and philosophy may be said to contribute mutually to the dependability of their procedures. And each builds up within its own on-going activities factors which increase its dependability. Science helps philosophy and helps itself; likewise, philosophy assists science and improves upon its own procedures. It may seem a bit paradoxical to state that philosophy contributes to its own dependability. This sounds like lifting oneself by one's own boot straps. But we accept the fact in science as a commonplace. Everyone recognizes that the latter has built up its principles, techniques, and procedures in the course of scientific inquiry. That philosophy does so is no whit more difficult to discern. The next three chapters undertake to consider in more detail the contributions which philosophy makes to dependability in the study and conduct of education, and how such contributions increase the dependability of philosophy itself.

To summarize: The procedures of fact-finding and decision-making are directed and in part determined by conceptions, sensitivities, and ways of response which function in the behavior of the inquirer. The problem of improving dependability of deliberation involved in all ranges of investigation is not only that of securing more reliable data but also that of improving the dynamics of thought. There is special need for the improvement of the conceptions, sensitivities, and ways of response which interplay in deliberation. Science and philosophy mutually contribute to the dependability of decision-making involved in their activities and in ordinary thought and action. Science contributes chiefly as the source of more reliable data and of suggestion for the improvement of procedures in all ranges of inquiry. Philosophy contributes to the improvement of conceptions, sensitivities, and ways of response by persistent criticism, theoretical construction, interpretation, and suggestion.

CHAPTER III

PHILOSOPHY AND EDUCATIONAL CONCEPTIONS

We have already noted the vital place of conceptions in deliberation. They were seen as factors which enter to condition the guidance of conduct. In the present discussion the purpose is to indicate further the rôle of conceptions and how their dependability is increased. First we may note how concepts function in total behavior acts. This will indicate at once the dynamic rôle and nature of conceptions and the need of and conditions for their improvement.

Human behavior, like all organic behavior, contains within itself certain capacities for initiation in adaptation. Such responses operate with reference to the constitution of the environment and to the nature of the organism itself. That is, the responses act *as if* certain sequences of behavior will effect certain adjustments. What in the nature of the situation (within and outside the organism) supports such sequences, if they are supported, seems not to be a matter of concern with the lower organisms. They act and consequences follow, consequences which satisfy their needs or require readjustment. But on the human level some account may be taken of the conditions which increase the probability that desired consequences are desirable in the long run.

The fact that the conduct of all our affairs is carried on in rough response to the constitution of the situations within which and of which we are factors should be apparent. We have wants and we try to satisfy them. Our way is blocked and we seek new ways. Some of the things we seek we later come not to want. Our wants stand at swords' points; we have to choose among and through them. And in so acting and choosing we are responding "as if" certain conditions exist or may be made to exist. We are seldom aware of the "as if-ness" of our actions. It is only as they are observed more carefully with reference to what is acted upon that the assumed structures and the nature of these assumptions, are recognized. This happens to some extent when we are

baffled and are forced to examine what we are doing, the way things are going, and how our needs may be more surely and adequately dealt with.

In these acts of response conceptions emerge and function as links in the sequence of behavior. Some of them seem to be largely the product of frequently recurrent features of objects and movements in the environment or in the organism itself. Others arise from conflicting tendencies to respond; they are the causes or outcomes of question marks which give pause to action. As dynamic drives to action or to refraining from action interplay, the organism is groping for a way of response which somehow strikes a resultant among these forces, heightens some, or reduces others. Features of the situation are seized upon, experimented with, reshaped, and manipulated (sometimes entirely in imagination). Lines of action are shaped up and responded to. Ways of response which were disastrous or fruitless on previous occasions may be remembered and dealt with cautiously. Successful responses may offer suggestions for present action. Past experience and present perceptions constitute a mass of intertangled live wires of meanings, of functioning thought-patterns, of tendencies to action, of interplaying desires and inhibitions. The term "conceptions" is here used to indicate these various factors functioning in the sequence of behavior, so far as we are able to become aware of them.

When thus regarded, it is clear that conceptions are both valuable and dangerous. They are of paramount value in that they help us to get hold of experience so that it may be in some measure guided and controlled. With the help of past and present experiences we shape up plans and so direct events that desired outcomes will more probably be realized and undesirable ones averted. Storm clouds warn us to seek shelter. The questions of the child about sex, or our awareness that he needs and will somehow get information about it, make it urgent that we so share his thinking about these matters that perversions are avoided and wholesome conceptions and habits are formed. Recognition of the importance of vocational guidance spurs us to gain more control in these matters. And so on through all our vital needs and interests. The capacity to form conceptions is of fundamental importance in intelligent behavior.

But conceptions are also dangerous. They may or may not

help us to respond in accordance with the actual conditions or the more fruitful possibilities of a situation. They may be but partial abstractions which lead us astray or prevent our seeing the larger or truer aspects or relations involved. We may have seized upon some particular phase of experience and exalted it into a general principle which operates to hide its own inadequacies. Or our conceptions may interlink and form powerful patterns which mutually pervert one another. Dominant desires, biases, and purposes may so distort the facts that action is maimed, dissipated, or perverted. Conceptions may thus operate effectively to thwart the possibilities for further adaptation or reconstruction of our thought and action.

The dangers of conceptions may be seen in even those ranges of activity where we try to be most careful, in science and philosophy. The stress a few years ago on making psychology "scientific" is readily recalled. In an attempt to free themselves from such terms as "spiritual," "will," "apperceptive mass," and the like, some psychologists put much stress upon the notion of elements, S-R bonds, and so on. These terms were frequently misunderstood and tended to shut from consideration such vital factors of experience as growth and intelligent purposing. The stress on learning of specific items and the neglect of creative group and individual activities were the educational corollaries. Then certain psychologists swung to the other emphasis and were so misinterpreted that much freakish "freedom" resulted. The first emphasis set the assumptions upon which many so-called scientific researches were carried on. The studies of transfer of training show the effects of this major assumption most clearly. It is now recognized that the set-up of many of these studies did not provide the conditions for maximum transfer. The assumed conceptions are often the weakest links in the procedures of science.

The same is true of philosophy. Plato saw the individual in terms of the social classes of his day. His notions about human capacities and behavior were determined in some measure by this analogy. Aristotle saw the psychological through the rise and decline of the organism. From his study of biology and from the current social stratification of his day he derived his conceptions of a predetermined growth and of contemplation as the highest good. Rousseau was interested in creating a new society and

turned to the portrayal of an education fitting for one who would be able to live freed from the chains of current customs. Herbart was interested in an aesthetically moral life. His social and political background emphasized fitting the individual into the existing institutional setting. His observations on the child and on psychology generally reflect his interest in socializing and enriching individual behavior. Assimilation of the existent race culture was thus emphasized to the neglect of creative personality. Froebel gave a certain mystical significance to the arrangement of child-groups in circles. This symbolized and somehow gave an object lesson of the unfolding of capacities latent in the child. It was thought to have a peculiar potency. In all these cases certain patterns of thought operated to select out particular features of the experience of the thinkers, or the particular features were generalized into patterns which then became selective. It was only with difficulty that subsequent thinkers broke through these abstractions. Indeed, many contemporary groups have not broken through them; their ideas and practices are chiefly Platonic or Herbartian or Froebelian, and so on.

More recent and present conflicts of viewpoint in regard to discipline, the means of social control, the nature of subject matter, and the like, readily come to mind. Those who emphasize the need for a more static social stability, the mastery of basic facts, habits, and skills, and the development of stricter moral standards, tend to observe and think in one way. Those who stress the need for social initiative and adaptability and the creative and purposive nature of learning, tend to see their experiences in another way. Thus attitudes and notions about the home, the school, the church, the state, and the good life, may all variously join to form potent patterns which enter to influence what we see in the behavior of the child. And what we see there, thus selected and related in the "total" viewpoint, may confirm anew our attitudes and concepts. If we assume (consciously or unconsciously) in our approach to educational problems that it is the function of the school to fit the child with certain definite skills needed in adult life as it is or is likely to be, then our chief interest may be to discover how children can best be taught for the mastery of these. We may not ask ourselves what the child's behavior indicates he is capable of becoming or what social institutions ought to be. Or if we assume that social change is so rapid and fundamental that

education should do all it can to develop capacity for creative living, attention may be turned to seeing what in the behavior of the child supports this possibility and how we may make the most of it. Our conceptions in regard to these matters are clearly dynamic in their influence upon one another and upon the conduct of those whose thinking tends to be dominated by them.

Not only are our conceptions dynamic in their interfluence, but also in the sense that they are affected by personal and group interests. The desire for self-advancement, recognition, security in one's position, and leadership in one's group frequently operate to mold the course of thought. The desire of the young teacher for a reputation as "a stiff grader," the need for defending the value of one's own subject, the desire to have one's classes or school make "a good showing," the tendency of leaders to defend what they have said, attachment to particular authorities or dislike for ideas associated with leaders of another school, predominance of publication on one side of an issue, the salesmanship psychology of some teachers, excessive attachment to one's own opinions because they are his own or fear of one's opinions—all these and many more are familiar causes of prejudice and inadequacy in thinking. Such powerful drives are the greatest enemies or aids to conduct. They make thinking so mobile and elusive that only occasionally and with difficulty can we discern and influence the real motives which here interplay.

How, then, may we hope to improve these factors which operate so dynamically in our behavior? The suggestion is sometimes made that the way out is to become more scientific. In a certain sense this can be done, but not in the sense that conceptions are all cast aside or that we shall act only where the facts are sure. We may truly become more scientific if we recognize more fully that our assumptions should, as far as possible, be made explicit and treated as hypotheses. In science itself we cannot cast all conceptions aside. But if, somehow, we could become more fully aware of the assumptions which underlie most current research in education and could treat them, along with other hypotheses now in the minority, as hypotheses, it seems safe to predict that a marked redirection of research would follow. Nor may we cast all our conceptions aside in regard to the wider reaches of the problems of education, for example, the nature of the good life or the personal and social consequences likely to attend various edu-

cational procedures. We have to act through use of some sort of conceptions about these matters, just as we must use words in looking for a meaning in a dictionary. Here, too, it is highly urgent that we do all we can to make our assumptions explicit, to examine their evidential bases in experience, and to regard them as hypotheses subject to evaluation in the light of further thought and action. The situation, both in science and in the conduct of education, makes urgent a constant examination of these more elusive factors which enter so powerfully to influence what we do.

The importance of examining, reconstructing, and making conceptions is so great and the task is so difficult that both science and philosophy have been called into being as special branches of research in the study and conduct of education. As here conceived philosophy is only one source for the criticism and construction of educational conceptions. They arise in part in the performance of practical operations in the school through individual and group planning. In the degree that this is done with a view to remoter and more inclusive consequences it becomes philosophic. Scientific advances also suggest conceptions which practically force recognition. Scientists themselves feel the urge of their facts to come to life in interpretations and applications which extend beyond a study of the particular situations of inquiry. There thus arise from science many suggestions and "interpretation-facts," to use Kilpatrick's phrase. But these tend to be regarded from the frames of reference which are current and which frequently dominate the thinking of specialists. Like Edison's pronouncements on religion or social problems, their authority carries weight though their conceptions on these matters may operate for the most part as uncriticized stereotypes.

At this point philosophy has the opportunity of assisting by so examining the assumptions of theories and facts which arise in the special sciences and in educational practices that they are seen in an increasing degree in their basic relationships and in their meanings for those concerns which demand intelligent choice and action. In view of the dynamic nature of conceptions and the rapid changes which characterize social data, nothing short of a special study of total viewpoints and fundamental relationships is adequate. Only so do we secure greater probability that current abstractions will be loosened up and reconstructed. For this

task philosophy as a branch of research which may concentrate attention here is clearly in a strategic position.

In relation to science Whitehead has generalized the function of philosophy by saying,

All constructive thought on the various special topics of scientific interest is so dominated by some such scheme [of ideas], unacknowledged but none the less influential in guiding the imagination. The importance of philosophy lies in its sustained effort to make such schemes explicit, and thereby capable of criticism and improvement.¹

But the wider function of philosophy in education is that of dealing with the underlying problems of education in the light of advances which occur in the special sciences, educational experiences, and such thought areas as social theory, general philosophy, scientific theory, and the like. It is a sort of bee that gathers and transforms these various choice morsels into more organic wholes, and stings into activity those who assume too easily or narrowly. It thus helps in the reconstruction of conceptions which function in behavior. It helps to point out problems and to criticize assumptions and habits of thinking with wider reaches of important facts. It suggests better conceptions of the nature of the processes and modes of procedure involved. And it so formulates related considerations that orientation and redirection are given in further activities in the study and conduct of education.

In the degree that it performs this function philosophy may be said to be increasing the dependability of our procedures in education in four ways: (1) in the construction and improvement of concepts and points of view, (2) in the decrease of undesirable bias, (3) in the enrichment of suggestion, and (4) in the formation and improvement of habits and methods of procedure in philosophy. The remainder of this chapter will be devoted to the first point. The second and third will be considered in the next chapter. The fourth will be taken up in Chapter V.

The conceptions which philosophy strives to formulate with increasing precision and adequacy may be put into four classes. They pertain to: (1) The nature and wider bearings of the particular factors involved in education, e.g., the learner, the place of subject matter in education, the nature and function of the curriculum, the way character develops, etc. (2) The relation of various disparate factors which must be taken into account in

¹ Whitehead, A. N., *Process and Reality*, preface p. x.

making decisions in education, for example, the good life, the kind of person socially desirable, the conflicting or variant demands made upon the school from within and without, etc. (3) The bearing of wide ranges of consideration, e.g., social organization, the significance of experimental method of inquiry, and the meaning of particular scientific advances, upon the problems of education: what problems are basic and how they may more fruitfully be conceived. (4) Ways of procedure: methodology in the processes of education, including philosophy itself. The last group of conceptions will be discussed in Chapter V. The first three will here be considered in reverse order.

The contributions to education which have come through the more inclusive canvassing of the problems of education in relation to the nature of the learner, the relation of the individual and the state or society, the advances made in the sciences, and the like, are readily recognized in the history of educational theory. The more inclusive viewpoints of Comenius, Rousseau, Pestalozzi, Froebel, Herbart, Spencer, and Dewey need but be mentioned. They have had considerable influence upon educational practice and inquiry. They have released energies in ways which have made observation more attentive to new factors in new relationships. They have, together with advances of the sciences, improved upon one another; they have brought together into working principles and conceptions diverse considerations, and have so formulated these that educational practices and thinking are made more crucial, fruitful, and adequate when seen from these more inclusive points of view.

Our conceptions of the relation of such disparate factors as the good life, the kind of person socially desirable, and the recognition which should be given the demands of teachers, parents, and various group claims, within and outside the school, require careful scrutiny and frequent reformulation. This can be done only by a process of more inclusive and critical study. Persistent and repeated inquiry into these matters builds up conceptions and ways of regarding them as larger, interrelated wholes. Let us think, for instance, of the rich store of conceptions and viewpoints which have grown up concerning the good life.

From Socrates onward the nature of the good life has been recognized as a matter which challenges man's best thinking. Indeed, it has been a point of interest since the dawn of human his-

tory. It is hardly necessary to mention the emphases on the life of negation, the contemplative life, the active life, the greatest-happiness life, the socially useful life, the well-adjusted life, and so on. Since Spencer, the conception of comparative values has been more explicitly formulated. The fact that choices are important, that they determine in some measure what sort of person one shall be, and that various ways of life are open to us can hardly be more clearly seen than in the several viewpoints delineated by R. B. Perry in his *Conflict of Ideals*. In the school this confusion and conflict of values is involved (consciously or not, as present or as absent) in every choice which determines such matters as relative emphases to be given foreign languages, the social studies, literature, and science in the curriculum. It is present in the choice of methods of procedure in regard to these matters. In the degree that these concerns are from time to time examined, there is greater probability that inadequate conceptions will be made more apparent and better ones formulated.

The value of such inclusive viewpoints about the good life lies not so much in the solutions which they suggest as in the approaches they make possible as new problems arise. Obviously enough no prearranged life schedule is possible or desirable. Persistent adherence to original plans often lands one in unforeseen difficulties in which choices must be made anew. And it is in such choices that the quality of life shows itself. It is there that deliberation about possible ways of living may help. When various trends of consequences are noted and acted upon, they develop principles for further action. Though all such have perhaps narrow limits of usefulness from some points of view, they are the very differences which make lives different. Of course they are not the *only* differences which make lives different. One's particular experiences, biological heredity, and social heritage give deep determining influences. Sometimes they alone seem to determine choice and conduct. But the desirability of choosing and acting in the light of consequences as carefully deliberated as possible will scarcely be denied. And the recognition of a point of view, of certain general guide-lines of conception as to desirable personal-social developments, assists in making such life choices.

The type of contribution which comes through persistent and inclusive study of particular factors involved in education, even though special techniques which characterize the sciences are not

in evidence, may be seen in such conceptions as the following:

(1) The conception of "complacency" or "equilibration" is one which helps in the understanding of the basic characteristics of human behavior.² This conception, as worked out by Professor Raup, directs attention to the need for so managing educational affairs that those involved may be able to make satisfying achievements which stimulate to ever wider ranges of conquest. The notion assists in thinking of human behavior in terms of total processes of adjustment. It thus emphasizes the multiplicity of learning factors as involved in total processes. It makes more evident the need for complete acts of achievement, which provide genuine satisfaction in the reduction of disturbance as well as furnish stimuli for their initiation.

2) The conception of "remote, intermediate, and immediate objectives"³ of education is a formulation which may prove helpful for those who struggle with the problem of the nature and relationship of aims in education. For it at once denotes the fact that objectives are functional and relative, that they may be projected with reference to particular situations in the light of remoter consequences, and that objectives function as means as well as ends. Such a formulation helps in thinking of all these various factors and their relations within and to one another.

3) The conception of education as "continuous reconstruction of experience"⁴ is a fruitful one. It stresses and binds together diverse elements, and suggests certain general conditions which must be fulfilled if such growth is to continue. It is formal and capable of functioning in diverse situations. It serves as a sort of guide-line to direct attention to a general sequence of events in which happenings contribute to this sequence. It thus functions to assist in noting conditions and formulating plans in particular situations and in series of situations.

Only when such contributions as have been noted above are seen entirely out of relation to their vital office as instrumentalities which assist in the practice and study of education, do they appear as mere generalizations, mere theories, or mere conceptions. But when regarded in relation to that office, the importance of refinement upon conceptions and the symbols through

² Raup, R. B., *Complacency: The Foundation of Human Behavior*.

³ Kilpatrick, W. H., *Foundations of Method*, p. 362.

⁴ Dewey, J., *Democracy and Education*, p. 89.

which they are in part realized and communicated becomes apparent. As such are made more precise and comprehensive, directing attention and thinking more adequately and continuously, thought and action become more acute, effective, and fruitful. What Professor Dewey has said of symbols in general may be seen with peculiar force in the development of educational concepts and formulations:

The symbols used at first were not examined nor settled upon with respect to the office they performed. They were picked up in a casual manner from what was conveniently at hand. They carried all sorts of irrelevant associations that hampered their efficacy in their own special work. They were neither whittled down to accomplish a single function nor were they of a character to direct acts to meet a variety of situations: they were neither definite nor comprehensive. Definition and generalization are incompetent without invention of proper symbols. The loose and restricted character of popular thinking has its origin in these facts; its progress is encumbered by the vague and vacillating nature of ordinary words. Thus . . . [a] great step forward was made when special symbols were devised that were emancipated from the load of irrelevancy carried by words developed for social rather than for intellectual purposes, their meaning being helped out by their immediate local context. This liberation from accidental accretions changed clumsy and ambiguous instruments of thought into sharp and precise tools. Even more important was the fact that instead of being adapted to local and directly present situations, they were framed in detachment from direct overt use and with respect to one another.⁵

Such improvement of conception and symbolization is secured in part through experiences which give rise to "propositional feelings," in the words of Whitehead. We thus "come to recognize" and "come to feel" that certain things are true, and in some cases we definitely formulate these "observations," "hunches," "insights," "convictions," "reflections." But this occurs only partially and spasmodically unless a process of criticism-construction of conceptions is carried on rather extensively and systematically. For it is thus that various conceptions are brought into explicit symbols. Their meanings may then be stabilized, reinstated, examined. Points of incompleteness and of inconsistency thus become more evident as diverse views are examined in relation to each other and to available data. These difficulties set further problems which give rise to new ways of statement more adequate in light of the various factors as now seen from a new angle.

⁵ Dewey, J., *The Quest for Certainty*, p. 152.

This criticism and construction can go forward most rapidly and effectively only as we are aided by philosophy as a special branch of inquiry. Its activities in developing more comprehensive viewpoints and more consistent and fundamental conceptions bring clearer recognition of the limits and inadequacies of existing facts, theories, and ways of procedure. As one moves about in this larger thought area the inadequacies of specific concrete practices and existent conceptions often emerge in feelings of difficulty. There are feelings that something is wrong here, that there is confusion, that our thinking and practices are chaotic or incomplete. In the interest of this larger experience or practical life adjustment, philosophy frequently gives special attention to doubtful details and strives for more adequate conceptions. Such treatment of the factors which operate in the educative process may be said to be the distinctive characteristic of philosophic procedure. It is the specialized attempt to examine the assumptions and directions of educational conduct in the broadest reaches that give promise of illuminating actual conditions and of pointing our strivings in directions which emerge in this wider purview.

The philosophy of education thus performs a creative function in so far as it stimulates new lines of thought and action. It so assists in building up an experience which contributes to the store of improved instrumentalities with which the problems of this range of affairs can be thought about. It helps to develop those continuities along which thinking may proceed with increasing facility, precision, and inclusiveness. It assists in developing particular special concepts and the underlying connections which mold them into functional thought-patterns, or "constructs." Conceptions thus refined and developed, in part through philosophic criticism and invention, help to make more consistent, definite, and adequate the operations of thinking with reference to the projection and choice of directions and means in educational affairs. Philosophy here contributes to the dependability of the total educative process, and this improvement in some measure helps in the further quests of philosophy itself.

CHAPTER IV

PHILOSOPHY AND EDUCATIONAL SENSITIVITIES

The second contribution of the on-going process of philosophy to the increase of dependability in educational affairs, including its own procedures, lies in the building of sensitivities.

A sensitivity means that something in experience has been so reacted to that the operations involved in the response (in thought or in total behavior) tend to repeat themselves or to influence other responses under appropriate conditions in subsequent situations. What is meant may be seen in the case of a physician as he diagnoses a patient. He may ask the patient how he feels. Pulse and temperature may be examined, and so on. These various operations become cues which link up with and set in operation certain processes in the thinking of a physician. Some are sorted out and explored. If a satisfactory solution suggests itself, another set of operations begins to formulate a method of treatment. In the degree that the physician has built up a rich experience in ways of procedure, he is made sensitive to the various cues, outside and in his fund of experience. He is thus the better able to diagnose and deal with new situations. By particular attention to these matters and by persistent practice the physician builds up a special fund of experience readily available. He is "sensitized" to these matters.

Sensitivities in educational matters come in much the same way. The sensitivity here is in part a sort of conditioning, a matter of the social experiences of the thinker. Patterns of feelings and attitudes are formed. Some emphases are felt as more important than others. Those ideas which fructify and expand in our own thinking tend to form the spectacles through which experience is seen and interpreted. These particular sensitivities are somewhat rectified and reshaped by communication with others. Viewpoints expressed pungently and powerfully impinge upon us. As novel suggestions arise from these sources and from changes in social conditions, for example, changes in moral

standards, living conditions, forms of leisure, the advances of the sciences, and the like, careful thought about them develops sensitivities to the new demands and the changes thereby ushered into our thought-ways. Emotional conditioning, social communication, personal and group interests, and the processes of thinking are the chief ways in which educational sensitivities come.

The sensitivities built up in those who participate in philosophizing or who are influenced by it are chiefly sensitivities to conceptual materials or to materials capable of becoming conceptual. For this reason the distinction between the present discussion and the one on conceptions is in part a matter of convenience. But the contacts made through the activities involved in philosophical research and deliberation are broader than those with the concepts developed as more specialized products of philosophy. We are here concerned more especially with the effects of sensitizing in the total behavior of the educator. To what does he respond in philosophic inquiry? What influence does philosophizing have upon his attitudes, biases, preferences, or on the sort of fund of experience which is made operative? How does this affect his subsequent responses in educational situations?

How philosophic activity brings sensitivity to a wider range of factors which include but extend beyond concepts; may be seen in what the philosopher does. When the processes of more inclusive study are persistently carried on he comes into contact with a wider variety of school situations and educational points of view. He is supplied more richly with case materials derived from actual situations. His thinking is fertilized by divergencies in practice and in professed purposes. He has but to observe the interplay of forces within and outside the school to realize the stress and strain, the tug and squeeze of diverse desires, values dynamic in their demands and prejudices entrenched in vested interests and customary ways. Here he sees certain techniques and devices so stressed that other values are neglected. There he sees facts sought and applied without due regard for other important considerations. He comes to see and feel the aggregated groups of values that cluster about the interests of parents, of teachers, of the young, of the larger human community. He notes changes in the various special sciences and in the wider thought currents in their bearing upon educational problems. Persistent and careful thinking about these matters and attempts to clarify and project

new lines of action more desirable and in keeping with possibilities which are actual, though selected in the light of the socially and individually desirable, bring sensitivity to the complexity and interrelated quality of these diverse and disparate considerations. The activities of philosophizing build sensitivity to this wide and varied range of materials, movements, values, and possibilities which the educator discerns or contrives in the study of educational situations.

Philosophy may thus be said to contribute distinctively as it makes us more sensitive to four things: (1) to a larger number and wider variety of crucial situations and facts, (2) to the inter-tangled relatedness of the factors involved in educational affairs, (3) to more definite, comprehensive, and basic relationships between these various factors when seen together, and (4) to the ways of procedure which have or have not been fruitful, as viewed thus broadly. Let us note briefly some of the matters in each group to which philosophy makes us sensitive.

1. *The larger number and variety of crucial situations and facts.* Through the more inclusive study of education which philosophic research stimulates we come into contact with such matters as the following: (a) typical school situations—the set-up of more traditional schools and of experimental schools at home and abroad, practices and aims of various teachers, the place given to play, the mastery of subject matter, social group activities, the use made of community educational facilities; (b) social changes affecting education, such as the shift of population, nationalism, internationalism and patriotic practices, religious and moral thought and education, demands for vocational training and for development of social initiative, influence of community life on educational practices and possibilities; (c) changes and divergencies in theory, as those in regard to the psychology of learning, individual differences, class size, heredity and environment; and, (d) resources and changes in general philosophic theory, advances in the special sciences—for example, the significance of the new physics—in history of education, in political and social theory, and the like. Through wide familiarity with these matters and their bearing on educational theory and practice, the student of education may be better able to discern the eddies from the main trends, the wise from the frivolous, and the probable limitations of fads in practice, theory, and science. He is better able to sug-

gest, advise, and criticize in the light of this larger view. This is included in philosophic inquiry as herein conceived.

2. *The intertangled relatedness of factors involved in educational affairs.* Persistent study of the relative significance of the various claims made by the state, by parents, and by civic groups, of what the child is capable of becoming, of what social institutions ought to be, of the diverse areas of human activity and their respective importance, and so on, makes evident their intertangled demands upon education. The limitations of particular scientific findings or proposals of policy thus frequently stand out in bold relief when seen against the background of this interwoven fabric of considerations. That these considerations must be taken into account if education is to be wisely directed is evident. It is possible to do this only as more careful and continuous attention is given to them.

3. *The more definite, comprehensive, and basic relationships between various factors when seen together.* Only by a philosophizing process are the various concerns mentioned above more than a hodge-podge of isolated items which may on occasion be suggestive in new situations. The experience of the educator is integrated and made more fruitful only when these are reflected upon until basic relations emerge. Such theoretical constructions serve the individuals who originate them and may be communicated to others. Though such constructions usually undergo rapid change, they serve to stimulate further thinking and to direct more wisely our programs of further inquiry and action. Here only philosophizing serves to make us more sensitive.

4. *The ways of procedure which have or have not been fruitful as viewed thus broadly.* Critical examination of the value and limitations of procedures brings clearer recognition of what is to be avoided and what is most likely to prove fruitful. Procedures frequently studied include these: methods employed in such schools as Dalton, Montessorian, Froebelian, Project, and the like; methods of group discussion; methods in research and fruitful thinking. While scientific procedure may here be used to test or observe a limited range of outcomes, it is only by a philosophizing process that the broader implications of these procedures may be seen. As philosophy contributes to this process of evaluating and improving methodology it also makes us increasingly sensitive to these matters.

Now that we have seen in summary fashion what philosophy makes us sensitive to in a distinctive way, how do these sensitivities help to make educational behavior more fruitful? Let us consider first their effects in the quality of behavior as a whole, then we may note their effects in more specific types of action.

On the negative, but nevertheless important, side, sensitivities built through the philosophizing process reduce undesirable bias. In so far as bias arises from inadequate sensitivity to the consequences of various lines of conduct in education, philosophy counteracts it when these consequences are made explicit and frequently thought about in the contexts of various educational problems. Important considerations not seen before are brought into vital operation and less adequate patterns of thought are reconstructed or replaced by those which take into account these wider relationships. Narrow sensitivities and inadequate conceptions are frequent sources of bias. A few examples will suffice.

The teacher who wants a reputation as a "stiff grader" will not be so easily dominated by this wish if he realizes the consequences of such a policy for the interests and attitudes of students. Administrators who see the harm of excessive stress on grades will lay less emphasis on these and seek to provide a set-up of procedures which foster a richly stimulating school life which generates interest, as far as possible, intrinsic to the growing experience of the students. Likewise those who realize that standardized tests may be so used that they emphasize the mastery of particular facts, attitudes, or skills, to the neglect of an expanding group-experience and self-mastery, will be more careful in the use of tests. This is in some degree true even though the reputation of the school may depend upon the mastery of these particulars. Some will revolt for the sake of their ideas. But the many are often in slavery to fears and personal interests. A wider change may be needed in the demands made on the school. The biases of the community and of the whole educational system may have to be gradually reshaped, in part through an intelligent examination of the fundamental problems and purposes of the school.

Or, again, when it is discovered that facts can seldom be taken singly but are related to other considerations, a new conception of research and a new attitude toward it are possible. The need of seeing facts and interpretation-facts in a wider setting of related considerations may be made so apparent that one's whole view-

point toward scientific facts and research in general is permeated by new caution and liberation. A recognition of the need of reëxamination of facts in their wider contexts is correlative with the realization that this is in some degree possible by persistent effort to see the fundamental relationships involved. Finally, the very recognition that in all our thought and action about the wider concerns of life vital and propulsive biases are at work is a net gain. Persistent effort to examine these and to allow fuller play to those which seem to be carrying us in more desirable directions is another way of stating the function of philosophizing. Thus more adequate sensitivities reduce undesirable bias.

On the positive side, the philosophizing process and its products enrich suggestion. This is along three lines. First, sensitivities to advances made in various areas of scientific, educational, and philosophic inquiry suggest new observations and ideas. They release energy and set new problems. Fresh formulation of problems is thus possible. Many old problems are "killed" and new ones arise. Take, for instance, the new developments in physics. Here we have been made more sensitive to the fact that our measurement procedures are determined at both ends: by what actually exists in the phenomena we study and by the purposes which operate in us as experimenters. The recognition of this movement in physics makes it easier to see the need of scrutinizing the motives and basic assumptions of measurement in education. Our sensitivity to the broader situation thus suggests more forcefully this new educational problem. The broader background of contact with the four areas of experience noted above makes us more sensitive to the import and possibilities of the educational problems which we face.

Second, when we are made sensitive to divergent viewpoints thought is more readily stimulated by a variety of alternatives. Which line of procedure shall we take? Should students be made more thoroughly acquainted with standards of conduct? If so, shall this be by a process of mastery of ethical principles in separate classes or in all school situations? In the high school shall we follow the policy of major emphasis on vocational subjects for some pupils, or shall we insist that a study of broader social problems and of the heritage of literature and art is important for all? Hosts of illustrations might be cited where divergencies in practices and outlooks raise vital problems once they are sought

out and formulated. When we consider these divergencies in their relation to one another or seek more adequate formulations, sensitivities thereby built frequently assist as we face new educational problems. Suggestion is enriched by alternatives which more readily present themselves.

In the third place, such processes of group and individual deliberation as seek to get the various relevant factors out into the open and to move toward decisions which best provide for them so conceived in relations to one another, build up a more integrated educational experience. Sensitivities are built more extensively and keenly. Various conceptions, principles, and ways of procedure function more readily in subsequent responses. This is so important as to warrant illustration.

The following case may indicate what is here meant. A teacher in a private elementary school of a certain eastern city sought help from a group of students of education in regard to a recommendation about spelling in the school. She had been asked by the principal to make suggestions as to the best spelling text. She had examined a number of spellers and was amazed that some had as many as twelve thousand words while others had but three or four thousand. It also appeared that the words were chosen for some spelling texts on the basis of frequency of use in adult life, and for others on frequency of use by children of various ages. Some texts were little more than suggestions for spelling words which are commonly misspelled. Some grouped the words on the basis of root meanings, some on the basis of words commonly confused. Some gave only singulars with rules for forming plurals; others included plurals for each singular. Upon what basis should a choice be made? This was the problem for discussion.

Someone suggested that, after all, adult needs constitute the only genuine basis for selection, for education aims to fit the child for effective participation in adult life. Another objected that such an idea is unsound, that real growth comes only as the child is able to communicate more effectively, and that the words must be such as serve those needs at various stages of development. Another person expressed the idea that the difference here was only an apparent one. What was needed was free communication, but an improvement of vocabulary and spelling ability in the course of growth into adulthood. Then someone interposed this

question: "How should spelling be taught, or need it be taught as a special subject at all?" "Yes, it must be taught, for certain basic skills must be mastered. The trouble with too much of our education is that it is only part learning," was one point of view. Another was, "But Colling's experiment seemed to show that we needn't be so concerned with these so-called basic common essentials. If we get vital activities under way, the children will come to want sufficient mastery—and will get it—in doing the things they decide to do in their community life. And besides, this method results in less dislike for school and develops most important attitudes, such as willingness to coöperate with others, looking for needs and opportunities within their group, and so on."

Lack of time ended the discussion without any satisfactory answer to the problem proposed by the teacher. But the discussion had proved rather a surprise. The teacher had not realized how interwoven even a simple problem of choosing a speller is with vital questions about the whole school curriculum, and about life. In deliberating to a conclusion about this problem the teacher had either to do some vigorous thinking, or to disregard the various suggestions made in the discussion and to make a recommendation that fitted in best with her former way of looking at such matters. At any rate, if the process of thinking was carried on, either in this case or on subsequent occasions as opportunity permitted, her outlook and emotional responses may have undergone considerable modification. A sense of the interwoven complexity of such matters and a recognition of certain crucial and fundamental factors which run through all of them must have risen and been built up into ways of looking at these problems. As the teacher faced further situations, her experience, thus more explicitly integrated, would make her more sensitive to these various interrelated issues. Suggestions would arise more richly and readily.

To this point we have tried to indicate how sensitivities improve the quality of educational procedures in general. The reduction of undesirable bias and the enrichment of suggestion have been stressed. Let us now note the influence of sensitivities in more specific types of behavior-acts, such as: (1) in rapid or habitual responses; (2) in ability to detect problems; (3) in insight into possibilities; (4) in terminal responses involved in deliberation;

and (5) in the motivation of further thinking and of search for data bearing on particular points of view.

1) *In rapid or habitual responses.* Once a considerable body of habits and skills is so built up that tendencies are predisposed in some directions rather than in others, there is a basis of habituation which is in line with a general point of view. Philosophy is becoming a way of life, even in less criticized responses. One child strikes another. What shall be done? Some action must be taken at once or a dangerous struggle may ensue. Shall the offender be punished? If so, shall he be made to stand in the corner or stay after school, or shall some sort of group opinion be summoned? Is the latter worth the time it requires? Now, if such cases have been thought about in their larger import, perhaps *after* experience with like situations, decisions made even on the spur of the moment are more adequate. Certain principles of action come to function readily. Rapid responses are more consistent with a general point of view.

The educator who responds in ways which foster the attainment of objectives, or movement in directions chosen as desirable, is acting in a more adequate manner than one who responds less consistently. This is not to overlook the need for variation of response as there are differences in the confronting situation. Indeed, sensitiveness to underlying changes and to the implications of observed situations is impossible apart from the instrumental guidance of some sort of more or less reliable conception of what is involved and what is likely to happen if various things are done. Action in such cases is bound to be in line with some point of view even if there is merely random reaction. The desire to secure one sort of outcome rather than another tends to make observation attentive to opportunities and to means for their realization. Many such responses made at first largely by aid of deliberation become telescoped into habits which make action acute and facile. A larger proportion of the total number of responses made by the educator come to support his best thinking in these affairs; the cues of the situation are made more readily effective in setting up operations which accord with the directions of growth he wishes to foster.

Philosophizing as a process which seeks fundamental inclusiveness is obviously only one contributor to sensitizing such as is here discussed. The sensitizing comes also through contributions of

science, both in the sense of specialized inquiries and as method used in the conduct of education. Very many of the materials for philosophic thinking come through those sources. Many also come from casual and intentional contacts with the persons involved in the educative process. But only as these various data are thought over in relation to outcomes covering a longer time span and in their fuller complexity of interrelated qualities and relative importance, is the contribution of philosophizing made. All these processes contribute to make the art of education more artistic—more sensitive, stable, directive, far-seeing. The various contributions are so interwoven that they may be distinguished only roughly and descriptively. The same is true with reference to the sensitivities mentioned below. This should be kept in mind; otherwise we slip into the habit of thinking that *only* science or *only* philosophy contributes to the building of sensitivities to what is, what may be, and what ought to be in educational affairs.

2) *In ability to detect problems.* The possibility of a problem is in part the condition of the organism. There is no problem if no person is sensitive to the situation. This should be so obvious as to require no comment. But the fact is of considerable importance. Teachers who neglect careful study as to what outcomes are desirable and who fail to master as far as they can the possible resources necessary in contacts with pupils, both in advance of and along with those contacts, can scarcely be sensitive to the underlying movements and causes in the complex situations which occur where persons are involved. The existence of subtle fears and desires and the significance of qualitative changes in the responses of others are for the most part unnoticed. New and indigenous possibilities are not seen; the ends are not projected; the means are not sought. Customary habits tend to dominate. But responses are to that degree blind. Their more remote direction and import do not become problems. The attendant and final outcomes do not exist—in the plans of the teacher. But their actual inevitability makes sensitiveness to these, so far as possible, an imperative need. This is at a maximum only through the process here called philosophizing. The same is true with reference to curriculum construction or administrative problems. Sensitivities, as well as the external features of situations, are the triggers for problems.

3) *In insight into possibilities.* Some problems force themselves upon us. Our activities are blocked. Or the situation is obviously a bad one or an opportune one. So that some needs for choice present themselves even in case of lesser sensitivity to problems. Courses of action must be decided upon, either intelligently or impulsively. Whether or not intelligence directs depends largely upon the capacity and disposition to sense present conditions in relation to possible lines of action which utilize those conditions in attaining directions or ends projected and chosen. If creative intelligence is important, how shall classes in art, history, or arithmetic be conducted? If it is desirable that children become capable of formulating their own standards of judgment in literature or in morals, what bearing does this have on the prohibition of this novel or the avoidance of that discussion? What opportunities are there in general for the achievement of such ends? And what opportunities are there in this particular situation, or course, or group of activities?

Answers to such problems are sought and created as deliberations are sensitized to the more inclusive present situation: what it is, and how it has come to be what it is; what within it points toward more desirable adjustments; what means promise to be best for the processes of realization. This sensitivity is dependent in part upon present perceptions and construction and in part upon previous experiences. Philosophy may contribute to such sensitivity distinctively as a specialized branch of inquiry, or body of subject matter, in suggesting conceptions as to the factors and processes involved, attainable, and important. As the process of relating these various data in the present situation in projecting courses of action, philosophizing assists as guide in artistic realization of intelligently chosen directions or goals. It thus helps in formulating possibilities judged to be realizable and desirable. Sensitivities here make available the tools of experience with which situations are studied and guided.

4) *In terminal responses involved in deliberation.* Whether possible lines of action suggested are chosen or rejected depends in part upon two distinguishable types of "aversion" and "adversion" which are types of sensitivities. A case from school life will illustrate. A principal was asked to promote a community organization. There was considerable evidence that it was not wise for the community as a whole. An enticing compensation

was offered. But the sensitivities of the principal to the moral issues were sufficient to raise a problem. What should he do? He thought of what various lines of action would lead to, the effects on others and on himself. That he should knowingly do an injustice was repulsive to him. Yet was he responsible for what happened outside the school? Besides, he could not be sure that the outcomes would, on the whole, be bad. If the offer were not accepted what would happen to his hopes for a larger income that year? Thus various possibilities were explored. In the process some suggestions were repellent, others were attractive. This is the first type of aversion-adversion. It may be called the intermediate terminal response in deliberation.

But after these are made, or along with them, all these responses are piling up a sort of potential which seeks release. What the final course of action will be depends *in some cases* upon how the situation clears up, how evidently advisable some course becomes. *In other cases* the final terminal response is largely a weighing up or a total feeling response in which wants and outcomes are reëxamined and allowed to "ease into the conformity of feeling" until some suggested mode of behavior becomes dominant. How the principal decided, in the face of the complex uncertainties-certainties so common in human problems, probably depended in large measure upon his sensitivities to underlying connections and consequences, what would happen to the various persons involved, and how he felt about them—including his sensitivities to what he regarded as his own self-respect.

The merely personal, as far as it means disregard for the welfare of others, should obviously be kept in check. Final choices should be based as far as possible on the evidence of what effects the various courses of action will have. But the disposition so to examine the evidence is conditioned in large measure, as is the quality of the intermediate and final responses, by previous experiences of such nature as have given satisfaction from such a procedure or impressive recognition of its importance. The optimum of such disposition and such intellectual-emotional responses comes in part through processes of deliberation so conducted as to be worthy of description as philosophic. The special sciences, as psychology, sociology, economics, and the like, perform obvious services at almost every point to inform us of what must or may be taken into account. But lines of action

must also be projected, in relation to probable outcomes as viewed in the gross and in *this* situation. This is a further work of constructive thought, the dependability of which is determined in part by the quality of the sensitivities which function therein.

5) *In the motivation of further thinking and of search for data bearing on particular points of view.* Such sensitiveness as persistent study of wider ranges of data makes possible promotes educational research. The tremendous complexity of human events lays us peculiarly open to partiality. Ways of looking at things once set in motion tend to go uncriticized, and when they *are* examined genuine differences of opinion are almost inevitable. Some educators stress, for instance, the need for taking account of the *actual* situation in education. Most teachers are not skillful in directing purposeful activities. And certain basic skills, habits, and knowledges must be mastered if present tendencies to moral laxness and social slovenliness are to be averted. Besides, what we once get to doing we often come to like, though we dislike it in prospect or at first. Moreover, it is held that the rôle of purpose tends to be over-stressed in theories which build the curriculum around projects or purposeful activities. Certain other educators stress the importance of *all* the various learnings that school practices produce. They point to experimental and experiential evidence that all necessary common essentials may be got incidentally, or by *desired* practice, along with and in the course of discovering and satisfying group, personal, and community needs and interests. They point to the significance of attitudes which make for frank individual and coöperative facing of problems and their shared solution.

Each of these two groups of considerations tends to hang together, to reinforce and motivate itself. It has thus come to represent a point of view. The issues are so far-reaching and interdependent, the facts so uncertain, that it is practically impossible to remain entirely impartial. The demand for action, whether in research or in the conduct of education, makes it almost inevitable that one shall act upon some such point of view. In time one's sympathies tend to lean more heavily in one direction or another. And to the extent that genuine convictions thus grow up, careful search for crucial evidence is stimulated. The various issues are scrutinized most carefully and made explicit. If those of diverging viewpoints were to agree before examining

the vast reaches of relevant data—ever in the making—and the uncertainties involved, the progress of education would probably be checked.

No doubt viewpoints sometimes distort the facts, permit only part of the evidence to be seen, and that but partially. There is need for utmost care in this regard, but not so much care that more inclusive study and thought are checked. Events are *now* in process; the situation demands such intelligent guidance as is possible. Besides, no crucial scientific movement can continue to make headway without such comprehensive and thorough-going thinking. Though science needs to develop, within itself as far as possible, dynamic principles and hypotheses for investigation, scientists get so busy in particular researches that they are often unable to explore anew many relevant ranges of experience. Philosophic inquirers have sufficient difficulty even when freed from the labors of scientific investigation. Movement forward in their inquiries virtually demands the presence of convictions, even though held as tentative (at least in theory!). Such recognition of viewpoint sharpens attention to crucial issues and gives drive to thinking when contrary opinions are expressed or opposing evidence is given. Convictions afford a stimulus to challenge, to plan, to inquire. They stimulate the social process of search for facts which may be overlooked from other points of view—this, even though there is need for free interaction and honest attempts to examine and enter sympathetically into the weight of other viewpoints.

In summary, philosophy contributes distinctively to the dependability of on-going educational procedures by making us sensitive to a wider range of interrelated factors which may be taken into account. It thus improves the quality of educational behavior generally by the reduction of undesirable bias and the enrichment of suggestion. It makes on-going thought and action more sensitive, both to a wider range of factors in the background of the thinker's past experiences and in present situations. It makes more readily available a more integrated experience, both as fund of suggestion and as method of procedure. In this degree it improves the activities of a philosophic nature in research as well as in the conduct of education.

CHAPTER V

PHILOSOPHY AND METHOD IN THE STUDY AND CONDUCT OF EDUCATION

The interest in method in philosophy of education springs from two interrelated and vital needs. The first is the desire to improve, as far as possible, our procedures in the actual conduct of education. How may we better our policies and programs? How proceed that decisions made in conducting courses or student activities will be most wise? How at once get more exactness and more adequacy in thinking? The second need is for the improvement of research in the area of criticism, theoretical construction, suggestion, and interpretation. How study these problems most adequately? How get at once greater precision and more artistic literary power? How better use the facts and creative insight for the repatterning of thought, for the release of energy? In these two areas lies the vital urge to improvement of philosophic methodology.

The very need for dealing with such problems sets us groping for methods of coping with them. In time we strike upon procedures that are successful. These we continue to use more or less habitually. The examination of these procedures makes us more conscious of their nature. The conceptions thus formed react back into our procedures to improve upon them. In this way better habits are formed and more helpful conceptions about procedures become functional in our activities.

The limitations of such habits and conceptions are only too glaring. The complexity and changeful character of the social data with which we often struggle in our attempts to come to life decisions make philosophic problems of great difficulty. Failure to recognize this is fatal for anyone who seeks to improve his thinking in this area. General principles for the hygiene of inquiry and thought seem important yet are extremely difficult to utilize. Sometimes they are utterly useless. The main thing seems to be to tackle our problems with a will—with sincerity,

frankness, courage, confidence, caution, and persistence. Nothing else seems to matter. The nature of the situations which thus arise in their uniqueness will suggest ideas. We will back up when baffled and make new plans of attack. Attempts to prescribe formulae or methods are often ridiculous. Habits and ways of attack will grow up if we only wrestle with the problems in good faith. The chief command of philosophic procedure is "Attack the problem!"

Yet we may recognize the value of considering our resources and methods of attack despite their limitations. Not to do so is to lay ourselves open to formation of and persistence in undesirable ways of thinking. If we occasionally examine the various concepts, biases, fears, desires, purposes, and habits which function so dynamically in our observing and thinking and are able to set in motion lines of procedure which tend to reshape these into more adequate patterns, we may in some degree improve the quality of our thought, though we shall not expect to prescribe for all problems in advance. When difficulties present themselves such conceptual formulations as have been fixed in memory and such habits and attitudes as have been built up through persistent thinking may more readily come to our assistance.

The place of such conceptual and habitual factors in thinking is clearly analogous to that of rules and habits of speech. They are often most effective when least conspicuous. When built into or used in ways of thinking, they function sensitively in such on-going discourse as changing situations occasion. The mastery of habits and conceptual factors of method is as important (and in some degree as inevitable) for critical thinking as are habits of speech and knowledge of basic laws of language for most intelligent discourse. In neither case are rules sufficient. They must function helpfully in further operations. In times of trouble, familiarity with the conceptual factors assists in suggesting lines of procedure. And when habituated these function as keen-edged instruments and smooth highways with which and through which thinking may operate with greater acumen and adequacy. They increase sensitivity to incomplete and inadequate procedures as well as suggest possible better ones.

The influence of processes of philosophizing may be seen in relation to the discussion of deliberation in Chapter II. A number of observations were made: that one's functioning conceptions and

attitudes may or may not operate with recognition of their determinative character in thinking; that various complex considerations which are frequently weighed together may or may not be critically examined and reweighed; that sufficient persistence, suspension of judgment, and careful reëxamination may or may not be exercised. It was also noted that in the press of practical affairs and in much scientific inquiry there is a tendency to neglect careful thinking about many of the basic issues and connections in education, but that in all cases basic sensitivities, conceptions, and habits condition the quality of the decisions made.

We may note four ways in which active grappling with problems in the more distinctively philosophic range appears to improve method. The effects which seem to follow when the process of inclusive data-getting and critical deliberation are carried on persistently are these:

First, more dynamic attitudes and habits of thinking are formed. We come increasingly to see that thinking functions in and for the enrichment and guidance of on-going experience. Furthermore, the process of more inclusive thinking makes us more definitely aware of the complexity and uncertainty in the meaning of data, facts, concepts, and patterns of thinking. We are made more conscious of the fact that distinctions in meanings are not hard and fast black *or* white differences, but frequently represent all sorts of gradations. The matter of freedom versus coercion in treatment of the child will illustrate. Those who have not reflected extensively on such matters will be inclined to say, "You either do or do not favor freedom." But an experienced thinker in this range will recognize at once that under some circumstances we may use freedom, in others use coercion, and that these terms may have as many meanings as there are possible ways of responding with the child.

The import of the development of such dynamic quality in attitudes and habits of thinking is apparent. (a) There is recognition that the various facts are constituted and reconstituted in experience itself. There is more tolerant recognition of points of view different from one's own. There is clearer recognition of the value of group deliberation and more active interest in securing help through it for discovering one's own convictions, as well as remodeling them by seeing common problems from new angles. (b) It becomes more evident that the proper rôle of thinking is

not merely the mastery of facts or distinctions previously made. The fact that meanings function and serve in directing on-going experience emphasizes the experimentally constructive rôle of thinking. It becomes clear that thought is concerned not only with finding "how much" a thing is true or false, but also with contriving ways amid contending possibilities. We come to see that here the primary criterion of thinking is that of fruitfulness in projecting courses of thought and action, which, on the whole, bring into existence a better state of affairs. Our attention is turned to the reconstruction of experience. And (c) we are made only too well aware of the fact that such age-old problems as those of the good life, of religion and morals, of the proper relation of parent and child, and the like, are persistent problems which in some degree we are solving from year to year in new ways. As we continue to grapple with these problems we more clearly recognize the need for seeking ways of action which better take into account the diverse factors involved. We seek as eagerly for new facts, but we aspire also to become artists in deliberation.

In the second place, philosophic inquiry makes us more aware of our biases and points of view. The way one's viewpoint enters as a point of reference is apparent from the discussion of Chapter II. The viewpoint was an important factor which conditioned the direction of decision. Suggestions were considered together and then decided upon as seen in reference to the whole purpose and background of the inquirer. Now the process of persistent and careful thinking about educational problems in terms of the basic concepts employed gives a maximum chance for recognition, not only of the particular concepts, but of one's larger viewpoint. This is seen in relation to other viewpoints in such a way that all are more sharply defined.

The importance of such awareness of viewpoint lies in the increase of control it gives in deliberation. (a) We become more conscious of the need for seeing issues sympathetically from various angles. Thus we come to understand better the position others take and to make allowance for our own personal tendencies which would otherwise lead to confusions arising from partial outlook. We are more disposed to consider and seek for other viewpoints. (b) There comes increased recognition of the importance of having a point of view and of not giving way lightly before other points of view. The problem is usually not that of casting

away one's viewpoint or of keeping it, but of so using it in dealing with new suggestions that it serves to test them or to be remade in the process. (c) It becomes clearer that facts are always in part the product of purposes and that when seen from new angles they may have a quite different significance. There is thus clearer recognition of the need of examining facts against a broader background of experience, and the habit of so doing is developed. There is also less tendency to exalt some particular scientific finding or isolated experience into a principle of action. Facts are just as eagerly sought, but they must prove their worth for the enrichment of, or in relation to, the larger experience.

In the third place, activities in the philosophic range of inquiry build up a richer fund of suggestions in ways of solving this particular type of problem. When regarded as an on-going methodology, philosophic inquiry is improved by the building of a richer store of conceptions, sensitivities, and habits. All these together make subsequent responses more adequate. This fund of functioning tools is composed of concepts and sensitivities with reference to the nature of the subject matter considered and with reference to ways of procedure. Those with reference to the subject matter of inquiry have been considered in more detail in the two previous chapters.

But conceptions and sensitivities formed about ways of procedure are also significant. The problem-solving pattern,¹ for instance, may help to guide inquiries here. Familiarity with this formulation may call it into service as source of suggestion in projecting a line of attack on a problem, for directing attention when we are baffled in the study of a problem, or for retracing the steps of our thinking to check upon them. More often, actual experiences we have had in dealing with problems are recalled and scrutinized for suggestions in new situations. Experiences in getting data together, in shaping up a decision, or in conferring with others, which proved fruitful on earlier occasions, may now be recalled to suggest a way of thought or action. The ways of procedure employed by philosophic inquiry are thus stimulated and guided as truly by such a fund of functioning conceptions and sensitivities as is the action of the scientist by more obvious instrumentalities.

In the fourth place, careful and critical thinking in the philo-

¹ Cf. Dewey, John, *How We Think*.

sophic range of activities brings to recognition, and habituates in thinking and memory, more adequate concepts which help to control the course of inquiry. Tendencies to say, "examine the evidence," "suspend judgment until the facts are in," "verify the conclusions," and the like, are familiar patterns of thinking which have been developed especially by science. More than ever before the thinking of a growing number of people is shaped and controlled by such thought-ways.

Such procedures are important and dangerous. The value of these control-patterns for breaking down presuppositions and the abstractions of mere theorizing or traditional ideas cannot be overestimated. They are dangerous only when they freeze thinking under the guise of being scientific. In this sense science has in some cases been almost as much an opiate to thought and action as philosophy has occasionally been a narcotic to scientific inquiry.

The philosophizing process may make a significant contribution here by developing further thought-controls. The importance of making decisions for social action, even when we cannot yet be sure that the facts are final, leads to clearer recognition of the need for deciding whether a decision is necessary or advisable. Here we need such patterns of thinking as "decide whether to decide," and "decide as best we can in view of the various factors, and note the outcomes." The further recognition of the need for becoming sensitive to other ways of looking at our problems and for constructing more adequate modes of thought and action in a changing world makes urgent two further patterns: "communicate" and "experiment." Another suggestion is that of going through a sort of rhythm of experimental thought and action in which we "create and reconstruct" by a sort of alternation of control. All these various patterns are especially in line with the more distinctively philosophic needs, though they are significant for all thinking. In philosophy there is a maximum opportunity for their development. In fact, they seem implicit in much present philosophic inquiry though they have not been very clearly formulated.

Critical and creative philosophic inquiry thus promotes the habituation of such thought patterns as "examine the evidence," "examine causes and consequences," "suspend judgment when possible," and "verify"; but it also adds to these "decide whether

to decide," "decide as best we can in view of the various factors, but observe outcomes," "communicate," "experiment," and "create and reconstruct." For purposes of creative life in a changing society the control patterns of our thinking are thus made more adequate.

To this point we have indicated some of the influences of the on-going process of philosophizing upon ways of dealing with problems of this sort. Let us now attempt to formulate some of the techniques and ways of procedure which seem to be employed by those most successful in this field of activity. This may illustrate further how philosophic activities build up and may bring to explicit formulation some of the features of its own procedures.

The problems which confront us in attempting to improve philosophic procedures may be seen against the background of the nature of such processes of deliberation as were discussed in Chapter II. Let us recall the nature of the process both in its relation to on-going processes of adjustment and in its internal structure and functioning. The process is initiated by some difficulty or discontinuity in the on-going adjustment of the organism. Action is checked while an adequate stimulus is sought. Suggestions for locating the difficulty or of then resolving it present themselves or are sought for. Such suggestions are impulsive tendencies which may be held in check by other factors or shaped into a mode of procedure which releases on-going action. Decisions are thus the resultant outcomes of such factors as interplay in the process and sub-processes of deliberation. Among these factors are patterns of control. But control may be of a character that restricts interplay of the factors, especially when the decision to be reached is properly an interplay of wishes and preferences. In such cases habits of "considering the facts" may substitute a personal interpretation or wish as more important than the interpretations, wishes, and feelings of others concerned. Or mere personal preferences may lightly override considerations of outcomes which might with more inclusive and careful reflection and observation be taken into account.

Thus questions such as these seem important for the improvement of philosophic inquiry: How can one the better loosen up one's thought-patterns? How facilitate the reduction of undesirable biases? How free one's mind from cramping fears and blinding partialities? How enrich the store and fruitfulness of

suggestion? How build convictions without dogma? How form more dynamic attitudes? How form more adequate patterns of guidance and control? We shall not attempt to deal with all these problems. Certain hints about them have already been given. For purposes of illustrating the conceptual patterns which seem to be most helpful at the present time let us consider two questions. (1) How can one loosen up one's thought patterns? (2) How can one better enrich suggestion?

1) How can one loosen up one's thought patterns? A number of suggestions arise here.

a) *Examine and criticize the sources and consequences of thought ways which are functional.* In some measure it is possible to become aware of the nature of one's own peculiar likes and aversions, one's purposes, desires, biases, points of view. For instance, if I note in myself a dislike for religious disputation, I am better able to understand this feeling and to be more tolerant by noting how my own experiences made me come to feel as I do. If I see that a tendency to "explode" when someone raises the question usually leads to bootless controversy I may seek not to contradict but to inquire, to treat various viewpoints as interesting phenomena rather than as red flags for bullish combat. If as a school administrator I realize that I am a member of the "old school," I may more easily make adjustments to the new by re-examining the old in view of the new, or vice versa. Through such scrutiny of my thought-ways I come in time to gain more control over them and to reshape in some degree my attitudes and dominant patterns of response.

b) *Use genetic approach to get perspective.* This procedure obviously helps one to understand what a problem is, how it came to be what it is, what factors are involved, and what the relations of the factors are and may become in the future. Such procedure transforms many intellectual problems which arise chiefly from historical distinctions which have grown up in thought. Genetic treatment throws light upon how these distinctions arose and to what effect they operate.²

c) *Search for and reflect on concrete cases.* The attempt to find crucial cases, even when the thinker is not now in the situation, is analogous to seeing a situation rather than merely speculating about it in the abstract. To the degree that we can summon

² Cf. Dewey, *Experience and Nature* as a classic in the use of genetic method.

crucial case material for thinking about a situation we are able to develop lines of continuity and to see the intervening relations. The concrete situation may operate as a model to suggest new ways of procedure. For instance, the cases of deliberation studied in Chapter II were used for the purpose of seeing what guides the course of thinking. In so far as those cases brought out the characteristics of actual courses of deliberation they made it easier to see the various factors which interplay. The cases also suggested how the process may be stabilized and made more adequate. By use of concrete cases, thinking is in various degrees both stimulated and controlled.

d) *Multiply and reconstruct factors.* It has been suggested³ that instead of trying to rule out our biases in matters of decision we multiply them and let them interplay until more adequate conceptions emerge. In group discussion one frequently comes to feel the weight of considerations which before did not occur or seemed insignificant. We may come to recognize a new way of thought as more fruitful and obviously more adequate without tracing in detail its sources or consequences. It opens up new vistas and fits into our desires in a way that gives satisfaction or release. An able and amiable discussion of points of view different from our own, for instance on discipline, moral education, or sex education may repattern our outlook. New evidences are seen and the old are set in a new perspective. Our changes in viewpoint come not merely by looking at the facts, but also by seeing them from new angles and in new relationships. This seeing comes best through studying divergent viewpoints or participating in discussions where genuine convictions interplay. The need for active reexamination is denoted by the word "reconstruction." This suggestion for improvement of thought-ways may not easily be overemphasized. Its significance becomes more apparent the more we recognize the elastic nature of conceptions and the vast complexity and chameleonic nature of the data considered. By multiplication as well as by restriction we are able to construct new directions in thought.

e) *Develop negative suggestions.* Often in developing a point of view we come upon ideas which are contradictory or seem insignificant. These we may disregard or veer away from, especially if they cut across some cherished feeling or statement of

³ Raup, R. B., "Limitations of the Scientific Method," *Teachers College Record*, December, 1928.

position. But in the degree that we have a right to cherish a belief we must recognize that it is a *good* belief—so good that in the face of any opposing ideas it will prove more adequate no matter how far it is examined. These negations are thus of peculiar importance. They give cues for enlarging one's outlook and reconstructing or leading to more intelligent confidence in the old viewpoint. This can be helpful, of course, only as the new is allowed to play into consideration with full weight. The desire for truth in the matter must be genuinely dominant. Thought is then kept both plastic and virile.

f) *Examine carefully the unique characteristics of each new situation.* There is a special danger of subsuming a new situation under some rule of thumb. Philosophic systems may be weakest at this point; they so seldom have given explicit recognition to the novel and its value for reconstructing the system itself. Some analysis of experience may be made and assumed as "best." Classroom procedure may be shaped to inculcate this "best," while as a matter of fact what is best for learning may often be discovered only as events shape themselves up. This does not militate against having definite ideas, but stresses the need of utilizing the novel for the remaking of the old.

g) *Create new hypotheses.* When a hypothesis of the nature of learning, for example, is dominant, it is easy to accept it with the enthusiasm of a zealot. But seeking other hypotheses which explain the same facts and playing around with these new hypotheses will help us to appreciate the strength of the old hypothesis or to recognize its limitations. There is probably no further specific technique for this procedure except the recognition of the need of it and practice in seeking novel hypotheses. One cannot tell in advance whether such effort will be successful, but persistence in it helps to keep plastic our thought-ways even in regard to matters of deep conviction.

h) *Identify self with various characters.* "If I were to act (or think) as So-and-so, whom I admire very much, how should I act?" If one singles out for one's heroes in this drama those who are noted for their capacity as careful thinkers, there is a likelihood of becoming more capable of attacking a problem and seeing it through to the end. The discussion leader who insists on a careful and free presentation of various sides of an issue may come in time to serve as an object lesson in good thinking.

Through persistent practice an increase in skill for developing diverse viewpoints, even in the absence of the "actors," may be achieved. It is interesting to recall how fruitful this procedure has been in the history of philosophy. The conversations imagined by Plato and Hume, for instance, helped them to see and state more vividly the convictions of various characters. Once allowed to play into a viewpoint, the process of thinking tends of itself to suggest ideas.

2) How can one enrich suggestion to better advantage? There is no substitute for building up a rich and integrated experience relevant to educational problems. In Chapter III the value of such comprehensive study is emphasized as a chief contribution of the philosophic way of life. Techniques will not replace such inclusive and persistent criticism and construction. Many of the specific techniques discussed under question 1 apply here. In addition we may suggest:

a) *Garner thoughts and thought-provoking materials.* The use of a card system or notebook for developing ideas and accumulating striking statements need not be elaborated here. They are clearly of great importance.⁴

b) *Search for conflicts.* The search for conflicts is often a source of significant problems or a source of suggestion in thinking about problems already recognized. Present practices and theories (and assumptions) in education are full of conflicts. Much freedom in coming to self-control versus little freedom, is still a live issue. Now to enter as sympathetically as possible into the viewpoints of those who emphasize the one and the other, and to let oneself really feel the importance of the considerations urged by each, is a procedure which makes for fuller appreciation. But it should also serve as the starting point for further thinking into the crucial points of difference, an exploration of these, the acceptance or rejection of various features of each, and the formulation of a tentative conception which integrates the most desirable features of one or both. Such a procedure is one fruitful means of securing a multiplication and reconstruction of factors in the process of deliberation.

c) *Alternate the control.* Thinking is sometimes stimulated by stating as zestfully and freely as we can our deepest feelings

⁴ Suggestions may be got especially in Wallas, *The Art of Thought* and Burt, *Principles and Problems of Right Thinking*, Chapter VI.

on a problem and then coming to it from a new angle. The latter may be accomplished by turning upon the statement all the critical powers one can muster. Special search for contradictory evidences may be carried on in this criticism. Or the problem may be approached anew after some other point of view or line of thought becomes more dominant in our thinking. Suppose we state most zestfully our convictions on divorce or parental authority and then instate a line of thought about the nature of social control and see how the first problem looks from this new angle. Or suppose we get a new point of view from others and see how our statement needs to be reconstructed, or wherein it is better than the other point of view. We may thus alternate between a more exclusively elaborative or evaluative phase of thinking and a more restrictive or factual one. This alternation is analogous to that of the writer who gives free rein to imagination and then criticizes coldly what he has done. This is the only way some writers are able to get rid of the cramping of overcritical-mindedness. There is some control even in the more creative phase, but it is the control of purpose and of the marginal suggestions which contradict or approve without giving special attention to the truthfulness of what is being created. Thought once under way and rid of cramping fears and self-criticism commonly achieves new ideas if permitted to develop freely along some line.

d) *Relate suggestions to a wider range of experience.* For instance, the attempt to see at what points the notion of equilibration is supported in a large variety of the areas of experience suggests the extent of its value and its limitations. These limitations may suggest a new and more adequate hypothesis. The need for recognition of the place of purpose in behavior may be seen in our familiar plan making, the activities of group planning, the play of children, the boy making a glider, and the like. In such cases the equilibrating process is evidently of a different quality than in the case of a rubber band which tends to return to a state of adjustment. Is this conception adequate to account for will and moral responsibility which human behavior often manifests? Such a procedure helps to make thinking richer, more precise, and more comprehensive.

No special efficacy is claimed for such formulations of technique as have been mentioned. Doubtless men of greater endowment will always be leagues ahead in ability to deal with the interests of

life. And they will most easily invent their techniques in the light of particular problems and classes of problems. How much benefit can be derived from formulations of method is an open question in all ranges of inquiry. The extension of scientific techniques by means of giving special attention to them, and the capacity for those of lesser ability to profit by them, are suggestive. It seems likely that the ablest have benefited most from such formulations, and that through persistent effort the spirit and procedures of science have been greatly extended among a growing group of less brilliant workers. The extension of this movement into the social sciences and into such inquiries and deliberations as occur in the more theoretical and the more practical activities of life may perhaps be secured in much the same way. The fact that the habits and methods which characterize philosophic inquiry are not so well formulated and not so obviously specialized tends to obscure the effect of such inquiry upon those who engage in it. The improvement and mastery of such habits and modes of procedure can come only by struggling with the problems and by painstaking attempts to make the procedures explicit and habituated (i.e. unconsciously and consciously functioning), much as one seeks mastery of mathematical and scientific techniques in the course of dealing with problems in mathematics and science.

To summarize, the dependability of our procedures in dealing with educational problems of a philosophic nature is increased in some degree by contributions to method in dealing with such problems. Persistent research and deliberation here tend to make our outlook more consciously experimental and constructive, less partial, more abundantly supplied with experiences and ways of dealing with such problems, and more sensitively and adequately controlled. Philosophy thus contributes to the increase of dependability in this range of our activities by the building of better methodology.

CHAPTER VI

THE DEPENDABILITY OF PHILOSOPHY IN EDUCATION

In this concluding discussion let us try to see better what dependability means in connection with philosophy. What criteria of dependability seem most just and adequate here? How does the conception of philosophy suggested at the outset affect this matter? How do we come to recognize whether or not a philosophy or specific philosophic proposals are dependable, undependable, or in some degree dependable? Is dependability here a matter of personal judgment and taste, and if so in what sense?

Whether or not philosophy seems dependable is in part a matter of the way we look at it. Let us try three ways. First, let us see it in the gross. As we scan the history of philosophy (or science) we are impressed by the number of theories that have been discarded. At best they seem now to be for the most part objects of aesthetic contemplation, witnesses to the ingenuity of man in building a home more habitable than he was able to make in his own practical affairs. When seen from this point of view, philosophy has doubtless stimulated further thought, but there have been a vast number of defects, blunders, and miscarriages.

In the second instance, we may look at philosophy (or science) through the eyes of one facing a difficult situation. At once we become acutely aware of the precarious nature of all inquiry and decision. The very on-goingness of things, and the risk which arises accordingly, confront us to "the very teeth and forehead." We realize that our undertakings may or may not pan out as we now hope, and that what happens in the meanwhile may make us want something else. The multiplicity of factors among which we are constituents makes it apparent that both in science and in philosophy we are selecting from this on-going existence as truly as is the artist. The outcomes are so complexly conditioned that the dangers appal or lure us. There is no standard test possible

here. We can only estimate whether, as we look ahead, the factors are all taken into account and so dealt with that it is more likely that if anything does come of the inquiry or decision, it will be of good fruitage. All inquiry goes forward because there is uncertainty. In the very nature of the case we cannot be sure of the outcomes.

In the third place, we may regard philosophy (or science) as a continuous process. Here we are seeing a series of inquiries as they arise, as decisions are made and carried into further thought or action, and as the outcomes serve as sources of guidance in subsequent inquiries. Seen as continuing processes, philosophy and science are activities carried on in on-going events. Their directions and modes of procedure are modified in dealing with new problems. They may learn from their mistakes and successes. Thus the fact that inquiries in both have gone astray is not in itself a just condemnation of either. The only condemnation arises when little or no fruitfulness seems to lie in further pursuits along these lines. As long as they give promise of fulfilling our needs most economically through readaptation of procedures we will continue to "scientize" and "philosophize." In the course of events we shall seek to improve both operations.

It is from the last point of view that we have herein regarded philosophy. We have seen it as arising from the need of dealing with the problems which confront us. There has been a division of labor in coping with the practical affairs in which we are engaged. Philosophy and science have thus come to perform distinguishable functions by a method that is in the main a common one. The differences arise from the nature of the restrictions and liberations made possible through this division of labor.

When their functions are thus distinguished and their method regarded as on the whole a common one, there is no reason to claim that the one is dependable and the other undependable. Science and philosophy are not tools which may be cast aside if in some cases they have not turned out good work. They are rather instruments which must be improved upon as we strive to deal with changing problems. Or better still, they are not single instruments, but kits of conceptual, attitudinal, and habitual aids which have been built up and are undergoing modification and extension in dealing with the problems that confront us. The needs are persistent, urgent, and interesting. And they

are such as make desirable further and better science and philosophy.

When science and philosophy are seen as continuing processes the dependability of each is relative to its function. The criterion of both is, in general, the degree of the fruitfulness of the procedures used in furthering inquiry along the respective lines of endeavor. So regarded their errors may be as significant as the confirmed inquiries. This does not of course signify that responsibility may be cast aside. The aim is ever for more adequate formulations in both groups of inquiry. The facts are above par and errors are at a discount. New inquiries may disclose evidences which call for a reinterpretation of data, for a reconstituting of facts. The previous findings are thus reorganized into somewhat different wholes, or they stand as evidences to call in question the new findings and their interpretations. Science and philosophy thus function as wholes which operate to test new findings and suggestions and to be reconstituted in the process. Their dependability is to be judged by their ability to facilitate the on-going processes of inquiry.

But in particular the criteria of dependability in science and philosophy are somewhat different. The functions of philosophy are predominantly those of criticism, theoretical construction, interpretation, and suggestion. Consequently, it is to be judged on the basis of its effectiveness in performing those functions. While it is always to be judged by the validity of its suggestions in the light of further advances in experience, other criteria are also applicable here. First, is it stimulating? Does it fire the imagination? Does it repattern thinking in ways which we recognize as significant? Is it suggestive as we face difficulties? Does it stimulate concerted social action? Does it lead to further research along new lines? Second, do specific proposed conceptions help us to carry forward our lines of thinking? Do they help to guide action in such ways that further redirection is easier? Third, do the suggestions offered clarify tangles in which we find ourselves? Do they enter as impartially as they may into various sides of an issue and seek a new way that leads on into increase of ability to see these intertangled issues in a new perspective? And fourth, are such facilities provided and used for the expression of divergent convictions and interests that these are considered on their merits as seen and felt by all? Do the procedures

employed foster new insights and fuller understanding among those who participate? Such criteria as these are more applicable to philosophy in view of its particular functions.

For instance, in the degree that philosophy of education is concerned with social action, it will be judged by its fruitfulness for releasing energy in directions which are regarded as good by the group which acts upon it and by observing groups. Its formulations must not only be accurate in regard to the facts as established by science; they must also be "accurate" in regard to the possibilities. And the possible on the human level is often in considerable degree a matter of what people come to want. Philosophic formulations in this area must be socially satisfying and energizing—in the long run. This last phrase recognizes that in some degree there are limits within which possibilities can be realized. But the vast complexities of social arrangements and activities which compose different cultures emphasize the width of such limits. Human experience teaches something of what the limits are in national, international, or domestic organization. But it at best indicates only the general lines of such limits and the conditions necessary for further changes. Philosophy as critic and formulator must take into account the evidences attainable, but must also reckon among them those which indicate the possible.

Some striking differences in philosophic viewpoint arise from the way the facts and the possible are seen. For instance, Finney's *A Sociological Philosophy of Education* purports to be largely a demand that the sociological facts be taken into account more fully. It is urged that persons of low or of average I.Q. are not capable of contributing to socially significant ideas, and that purposive-activity schools neglect the mastery of facts and attitudes necessary for social solidarity. Accordingly, it is proposed that children be grouped on the basis of ability and that those of lesser ability be thoroughly drilled in those facts and attitudes which the educators deem socially sound.

But those who uphold a purposive-activity program may insist that Finney is taking the facts too narrowly and finally. It may be pointed out that some experiments show that a creative social-activity type of procedure builds social solidarity and coöperativeness of a more desirable kind and at the same time gets more mastery of facts. The choice is not, it may be urged, between

anarchy or do-what-you-will attitude and slavish obedience or aping of opinions; but is rather between these attitudes and purposive group and individual learning so guided that various outcomes considered together are best. Respect for others, coöperativeness, creativity, and mastery of facts and skills may thus be got without so much dislike for school, for learning, and for those interests which the school may in some degree develop into life interests. The second group thus proposes a procedure which sees the facts in a different perspective and with different inclusiveness.

In both cases the immediate criterion is that of whether the theories release energy for critical experimentation along these lines. But as outcomes become evident these data will throw further light upon the soundness of the theories. Yet these data will often be interpreted in light of the theories as held and the theories may be extended or restricted in light of the evidences. Because of this inevitable tendency to stress some considerations to what, from other viewpoints, would seem an undue degree, one criterion of the adequacy or dependability of a philosophy must be the provision for and practice of entering as fully as possible into other points of view and of making explicit the bases of its emphases.

The fact of such divergences in theory is not a condemnation of philosophy any more than the differences of schools in psychology, sociology, physics, or astronomy, constitute a condemnation of science. It rather calls for humility and further inquiry as new evidences come in from various sources: the sciences, educational experiences, and developments in thought wherever relevant. Only so can the facts be seen in truer relationship and the largest possible degree of clarification and stimulation be secured.

These remarks may serve to illustrate the fact that the criteria of philosophy are somewhat different from those which we may apply with greater justice to science. As a continuing phase of the study and conduct of education the special function of philosophy is that of reconstructing ways of thought in these affairs, of suggesting more adequate ways of procedure. It carries on acts of inquiry and careful deliberation. It thus contributes in varying degrees to the building of conceptions, sensitivities, and ways of response which function here. Philosophy seeks not chiefly for exact statements of existent relationships, but for such

suggestions as may lead on more fruitfully in thought and action. It is to be judged dependable in the degree that it so contributes.

The meaning and significance of this conception of dependability may be seen in its consequences for certain misconceptions which tend to creep into our thinking about philosophy.

The first rather common confusion about the dependability of philosophy centers in the notion that philosophy is synonymous with thinking—"mere thinking." It is interesting to note the integral rôle thinking plays in all scientific investigation. And yet scientists are most prone to say, "That is merely subjective." One sometimes gets the impression that some would (if possible) eliminate thinking from science entirely! This may explain, along with certain traditional attitudes towards philosophy, many current disparagements of it. It is identified with "mere thinking," "mere speculation," and the like. There is thus a tendency to conceive philosophy as cut off from total processes of inquiry.

Such a conception of philosophy makes a prior assumption as to what philosophy is. As a matter of fact, when seen as a total act of investigation, it must be recognized that a dependable philosophic inquiry will, whenever possible, be carried through various operations. There is noting of conditions in theory and practice, assembling of data, working over them, redefining of problems, further search for data, and persistent thinking about the problems in the light of the data. If in some cases this process may be foreshortened it is justifiable only when the integrated experience of the thinker makes it possible for him to develop a suggestion on this basis without reëxamination of all the factors involved in a present situation. But it will be clear that so far as the problem demands new data, "mere speculation" is unjustifiable, if there is any time for the needed inquiry. In cases where careful inquiry is not possible it is especially important that decisions made be regarded as hypotheses for action. Such decisions may have irrevocable consequences, but these consequences should not be without significance for dealing with such situations in the future. To suppose that philosophy ends when it has given such suggestions as to urgent novel problems is to put a limitation upon the continuity of thinking and observation in philosophic inquiry which no one thinks of putting upon scientific inquiry. To restrict philosophy to mere thinking is to fail to

recognize that it is a continuous process integrally related to the processes of education.

Philosophy, in the second place, is sometimes even further restricted. It may not even be admitted or recognized that thinking is itself a *process* capable of greater or lesser dependability. It is assumed that "judgment" is "mere judgment," or "mere opinion." Decision-making is thus conceived, not as a process which may focus a wealth of experience in dealing with a present problem, but as an isolated, instantaneous act. So conceived, the frequency of inaccuracies in judgment, especially in matters of exact or particular relationships, stand out so prominently that all judgment tends to be stigmatized as "mere judgment." The fact that judgments in science and philosophy rest upon the same basis is overlooked. In both cases the degree of dependability is to be decided only on the basis of the outcomes of *series* of inquiries. Judgments increase in dependability in proportion to the increase in the number of the decisions which prove helpful with a minimum of fruitlessness.

In the third place, just the opposite tendency may lead us to regard all thinking as significant only as it functions in actual situations. The continuity between overt experience and thinking is then overemphasized. The bond of continuity between experience of this sort and thinking thus becomes an inclined plane down which we try to slide from the nebulous regions of philosophy to the terra firma of scientific certainties. But that Rousseau's *Emile*, for instance, was not immediately carried into practice and to some degree tested by Pestalozzi is no argument against it. Nearly all significant thinking requires a certain amount of isolation in or from the needs of immediate action. Failure to recognize this makes a prior false assumption about thinking.

The larger social context of experiences gives the opportunities for problems and for subsequent or correlative testing of the theories formulated. But an overemphasis on the continuity of overt experience and thinking disregards the part thinking plays in the construction of modes of overt and non-overt action. Thinking is thus restricted in function to tabulating results or to accepting problems and methods of attack. The imagination is likely to be curbed within a rather definite set of functioning concepts and attitudes and to be quite unaware of the significance of other points of view. The degree in which many basic educa-

tional assumptions rest upon accidents and traditions which those who have studied them most deeply tend to reject, is thus not recognized. The fact that method in both science and philosophy is composed in large part of sensitivities, conceptions, and ways of procedure built up and functioning, in the investigators, from situation to situation, is overlooked. Thinking which reconstructs these factors is hurtfully isolated only when further thinking and activities are not thereby made more fruitful.

A fourth misconception which tends to creep into our thinking, especially in research, is that all decisions may be postponed until all the facts are in. A chief difference between some scientists and philosophers arises here. The former stress waiting to get the facts; the latter often urge the need for more immediate practical action. Those taking certain views of science, of the nature of the child, and of social phenomena would determine first all the factors and the relations they should bear to one another as determined by scientific analysis. In addition to the fact that this assumes a static world-view—a social world in which needs are essentially constant—this viewpoint is also supported by certain traditional conceptions of knowing and our common experience of removing our errors by means of further inquiry. The logical and psychological theories widely assumed in educational psychology add strength to the belief that only through analysis and induction may reliable facts be acquired and valid generalizations made. This assumption overlooks the fact that various considerations need usually to be weighed together for wise action. The process of fact-getting and of critical theory-making must thus go on continuously as two interrelated processes.

There is so much obvious truth in this insistence on "getting the facts" that its weaknesses tend to be overlooked. It often blinds us to the further fact that data systematically arranged do not apply themselves and also that some facts are "got" only in particular experiences. The use of systematized facts or isolated facts occurs only in those situations (in thought or in intelligent action) in which they operate as factors in a conceptual background which assists in noting present conditions and adapting means in realizing directions of actions chosen previously or in the situation. The difficulty seems to lie in the notion that facts bear their own seal and superscription. The fact that in on-going experiences sensitivities, conceptions, and ways of procedure get

built up, and may function with a considerable degree of dependability for noting and utilizing conditions in subsequent situations, is overlooked.

The prevalence of the relatively intelligent and effective action which such experience makes possible may be noted in the practical affairs of group planning, or in the work of the artist or business man. In such cases, procedures are determined by purposes, materials, and methods built up in previous and present experiences. Any possible body of systematized or particular facts can operate only as they function in on-going processes of adaption and creation. They thus assist to make action more dependable and fruitful. But, as has been noted before, the scientific phase of educational inquiry is only one source of procedure for the artistic conduct of education. Experiences derived in less controlled contacts with school situations and in thinking about the underlying connections involved in its processes also assist.

It seems to follow also that for useful thinking in both philosophic and scientific inquiry all the possible facts need not be known before dependable conclusions may be drawn. It may be that such conclusions as are drawn may be modified or discarded in the light of new facts, but *then* new generalizations may be made. It is the need of constant examination and reconstruction of such working principles and hypotheses that sets one task for philosophy in education. But, as in the case of the artist, the philosophic inquirer is assisted by sensitivities, conceptions, and ways of procedure built up and functioning with readaptation and extension from event to event.

In the fifth place, there is a common tendency in some current thinking to assume that the test of ideas is in experience. This emphasis in scientific circles is strengthened by certain interpretations of Pragmatism. The term "experience" is such a convenient one for expressing the "outer" in distinction from the "inner" phases of our havings and doings that to say that ideas are tested by their consequences in experience is to run the risk of falling into errors. The fact that thinking may itself be a constructive phase of experience tends to be overlooked. The prior assumption that experience is limited to present interactions is clearly fallacious. The thought process may at once bind together the past, the present, and the future and project lines

of action which are more dependable as a result of such capacity.

The pragmatist seems to mean that ideas are tested experimentally—by their consequences for other ideas, that is, in further thought and action. It thus becomes apparent that some ideas can be tested only through thinking, and that no ideas can be tested without thinking as guide and interpreter in existential interactions. This is not to set up a barrier between thought and action, nor to assume that thinking alone is final. If ideas can be put to the test by overt operations they may be further examined in relation to the consequences of those operations. And in any case ideas are ever hypothetical, instrumental, and appreciative. The degree of reliance put in them should be the outcome of all these possible operations considered together. But it should also be recognized that not all types of operation need occur in the same process of testing.

Doubtless there is a danger in the notion, which seems to have been assumed in some traditional philosophy, that thinking is alone sufficient as a test of ideas. There is doubtless need for fuller recognition of the evidence that all conceptions arise in human experience, when this term is used in its broadest possible meaning. But there seems also to be a need for fuller recognition of the fact that ideas arise and are tested, so far as they can be, in four interrelated and continuing processes. The mention of these may assist in securing fuller recognition of the various phases of experience in which ideas are generated and tested.

Our discussion of certain misconceptions of philosophy and the significance of the position that philosophy is a continuous activity integrally related in education, yet capable of criticism and construction, thus leads us to another main question raised at the outset: How do we come to know whether philosophic proposals are dependable or not, or whether they are in some degree dependable? As we proceed to note the ways in which ideas emerge and are tested, it should become clear that the dependability of philosophic ideas is determined in processes which tend to be more extensive than those in which scientific hypotheses are tested. More frequently philosophic ideas can be tested adequately in critical thinking or in social action or in a combination of the two. Let us now consider the processes referred to.

The first process is one of group interaction. In one respect

mutual criticism is a pooling of experience. The total range of experience brought to bear is thus extended in proportion as the critics represent various significant viewpoints. Especially among those most competent, this is a fruitful way of cancelling individual deficiencies (and sometimes excellences!) in such a way that deliberation is made more comprehensive and acute. But to conceive this as a mere weighting of judgments is to overlook the most significant fact that such social interaction is a *process* in which viewpoints may be criticized, reconstructed, and developed. It is thus essentially a creative process in which conceptions and attitudes are built up and mutually fructified.

For instance, the question of how much emphasis shall be given to the mastery of "socially necessary" facts or adaptations and to "creative activities" in the school is at present a matter of disagreement. Those who see it one way are pointing out their reasons and making their emphasis felt. Others are making other factors explicit and felt. Clearly the matter depends upon what the needs of our society are, and what its possibilities are, considered in a comprehensive, balanced way. Each tries to express his way of seeing it. This will lead to a variety of experimentation and to more comprehensive and discriminating statements which will become convincing to larger numbers and which will accord more truly with the best thinking that can be done in the light of crucial factual considerations. Thus agreements and disagreements become more obvious. Further experiments and formulations may thus be more easily discerned and made.

Such interaction opens a wide range of activities of which the sole test lies in the adequacy of the procedures to secure group activities and understandings, so long as they are non-incompatible with the welfare of other groups. But there are always possible points to be raised as to whether, regarded in a wider social or time context, the activities are of the quality which give maximum possibility of happiness or adjustment or richness of life or progress both within and beyond such groups. Thus mere effectiveness in the release of energies is not by itself an adequate criterion. The techniques for getting social agreements and action are developed to a high degree in advertising, in propaganda, and in much political and religious action. A further problem is to secure for such processes of group interaction a maximum of open

consideration of the issues felt crucial by all viewpoints, expert and non-expert, so that avenues will be opened up for the exploration of all relevant data and for such impartial examination as can be secured when thinking is both creative and critical. This process when truly representative and critical may be considered as the philosophic process writ large, and points to the conditions necessary for fruitful thinking by the individual. The number of viewpoints is multiplied and allowed to play upon one another until new ideas emerge. The process thus both generates ideas and tests them in view of this pooled experience.

The second process is one of selection and emergence in course of deliberation. Here various meanings, desires, preferences and purposes interplay. They are derived from past experiences (inclusive of reflection) or in the course of present interaction in the thought or thought-acting situation. Desires or purposes or facts may be thrown out of court or reconstructed in this process. We have here a sort of survival of those concepts and tendencies to action which are fittest with reference to the particular meanings and desires interplaying at any given time. The quality of this process varies greatly with the integrated experiences and habits of the organism and its present conditions. But in the process there is a real testing.

As in the case of a decision to become a physician *rather than* a lawyer, the only possible test may be here made. The decision may not be tested in experience at all if the person continues to be a physician all his life. Also in the case of some conceptions in mathematics or aesthetics or any other system of theory, judgments *may* be made only in relation to non-incompatibility of operations in the medium of symbols. There is a tendency to overlook the significance of this process of generating and testing ideas. Clearly it is not always the last resort. But the number of instances in which it is a source of ideas which are therein discarded, modified, and properly taken as functionally dependable is overlooked when too exclusive emphasis is put on overt experience as the sole source and test of ideas.

The third process is one of integration or reduction in thinking. What is here meant may be seen in such cases as those in which we are seeking to find a way of conceiving the educative process. We frequently find that such concepts as "growth" and "adjustment" help us. There are difficulties in the use of such terms.

They seem vague and general. Yet we find ourselves coming back to them. They seem to express something in experience which we cannot escape. Thinking seems to be helped on by these notions. We come to depend more and more upon them. They become tested by their fruitfulness in integrating and reducing the process of thinking.

This testing is with reference to what is effective in resolving deliberation. In the second process chief attention was directed to the testing which occurs through the interplay of various factors. Here the emphasis is upon what is found satisfactory for bringing the process of deliberation to a conclusion. The outcome may be action or it may be contemplation in which the steps of the process are freely and critically reenacted *in toto* or at crucial points, or it may be a mental passing-by to other matters. For this particular organism at this time the test of adequacy for reaching a state of "complacency" or reintegration has been achieved. The thinking for this purpose has been such that a fruitful, or a "true," solution or adjustment has been effected. And those concepts or modes of procedure in thought which prove helpful continuously or on the whole in thus making for adjustment of intellectual difficulties or interests will come to be regarded as so far valid. This is true even though it is important to recognize that they are functioning concepts and that subsequent thinking may modify them or discard them.

The fourth process is one of intentional and casual interaction in existential events. There are testing and possible suggestiveness which come as attempts are made to observe existential relations or to carry conclusions into processes which involve interactions of and with events in a more direct way than is possible through the medium of funded experience and imagination, whether individual or group. In these processes of interaction, as in the foregoing ones, there is the possibility for more than testing of ideas carried to these events. Novel factors before unsuspected often turn up to alter previous experience. And this process generates in its course new ideas which *may* be tested through all the processes here mentioned, if all of them are involved in the course of inquiry. It is unnecessary to stress the significance of this process. It is the chief reliance of scientific inquiry, but it is not restricted to such carefully controlled observation. Quite casual remarks or observations made now may at some future

time prove highly significant. This source of ideas tends to be overlooked when we overstress the part science can play in the conduct of education. There is less recognition of the fact that many most suggestive ideas spring from intimate friendly contacts with persons or materials of the environment.

These four processes and their outcomes are inter-influencing, and when considered in the large or in the long run, are all necessary. But not all of them exist in all phases of inquiry nor for all purposes, except indirectly. For instance, in the first three processes existential operations are on some occasions present only indirectly through funded, reconstructed experience. Much constructive thinking may proceed with little or no direct recourse to immediate overt experiences. And the fourth process may go on quite mechanically in some instances after the techniques of interaction and control have been set in motion, especially if they are self-recording instruments.

A recognition of such relative independence need not and should not lead us to overlook the intimate interdependence of these processes. The degree of dependability present in any one of them is in general and in the long run checked upon by the others. The quality of no one of them can be very significantly improved without the direct or indirect interaction of the others. It is just because these various processes have become more fully developed that modern thought rises above that of the primitive mind. Interactions in and among existential processes have become more sensitively and intentionally controlled, thinking has built up modes of procedure and patterns of control, and various phases of experience have been increasingly expressed, extended, and refined. All these operate together to make thinking and inquiry more crucial, critical, dependable, and meaningful.

Viewed in the larger meaning of experience as inclusive of all the foregoing processes, the tests of critical inquiry (science and philosophy) are generated within experience itself. The genesis of habits and conceptions and increase in their dependability come in some degree through the processes in their very on-going nature. This seems to be true even apart from the operation of more elaborated or consciously utilized methods in procedures. But the contribution which method makes in and among the processes is important.

Thus we are brought to the last question we raised at the beginning: Is dependability in philosophy decided by personal judgment and taste? The answer seems to be yes, but in much the same sense that it is decided in science and in art. There is no way of convincing those who persist in interpreting matters in ways in which others do not see them. But in the degree that recognized methods of procedure are built up, it is easier to see whether and why we like or dislike, agree or disagree. Our procedures are guided more consistently and we are better able to examine what has been done.

It is surprising how much method contributes to our sense of dependability in even simpler procedures like determining the number of books on a shelf or in search for a lost sheet of paper. For instance, I thought I had arranged the pages of a manuscript in a certain order. But I discover that one is missing. Where can it be? Is it misplaced among the other pages in the same group, or is it among a half dozen other stacks of sheets on my desk? I start in a random way to look here and there. But all at once I say to myself, "I can never tell in this way whether I have examined every sheet." Then I take each stack in turn in a certain sequence so that I am sure that none is missed, or that my missing is less probable. If this fails the first time, I repeat the process more carefully or improve upon it in such a way that search is made less susceptible to errors.

That increased dependability and increased confidence in the dependability of procedures and conceptions come thus is clearly recognized in scientific inquiries. Even these inquiries seldom attain that degree of definiteness that all who run may read—even among the most competent readers (scientists). There is apparently a certain degree or element of indeterminateness in the most exact scientific procedures yet devised. But tremendous strides have been taken in making such operations continuous and definite. They have been made more open to inspection and careful reperformance. This is true of both the mental operations and the overt ones. All the processes are thus made more public and precise. In such cases various factors enter to determine the sort of reliance we put in the inquiries: the consistency and adequacy of all the operations performed (non-overt as well as overt), the inner coherence or consistency of the statement of results, the consistency or non-incompati-

bility of the findings considered in relation to other knowledge. All these taken together contribute to our estimates of the dependability of the scientific inquiry.

But the fact that method operates in the same way to increase dependability in those processes which involve less use of special instruments is not so obvious. Yet we do recognize a difference between those group procedures where various points of view are calmly and frankly and openly stated and thought about and those in which subtle propaganda or uninformed biases are at work. And we do recognize a difference between those treatments of a problem which are partial and inharmonious and those which have just the opposite qualities. In the degree in each case that the operations performed and the outcomes can be seen clearly, stabilized in suitable symbolization, it becomes evident to all competent critics that the processes and the outcomes are dependable or not, or that they are dependable in some degree. This does not indicate that all social or theoretic inquiries are dependable in the gross, but indicates the general conditions through which increased dependability is achieved.

Take as an example Dewey's Essay, *Interest and Effort in Education*. At the time of its original writing (1896) a controversy indicated by the title was rife. One group emphasized the need of effort as the chief road to self-mastery and knowledge. Another group stressed the need of interest and its potency in securing attention, practice, and assimilation. Each group was elaborating its reasons and arguments pro and con. Dewey came along and looked at both sides of the controversy in relation to his own observations and ideas about children and human life in general. He saw that the two positions were not opposed, but rested upon a failure to see a more fundamental way in which the process of behavior-adjustment generates vital interests which secure vital efforts. He saw that the usual conception of interest, as primarily a condition for receiving something, overlooked the interests which spring from organic and social needs, that in fact interests are motive power to action in which effort is expended in learning things that contribute to those interests. All these considerations and others Dewey developed in such manner that practically all parties to the dispute recognized in his statements a more fundamental way of conceiving the whole matter.

The essay brings about this agreement, as I believe a critical

examination will convince any one, by indicating the operations in thinking through which the opposing views may be reconceived, operations which take into account observations which practically every one has made or may make. The previous situation of confusion thus became increasingly ordered. The various factors involved came to be seen in new perspective, in a relationship constituted through operations open to inspection among themselves and in relation to the experience factors thus brought into consideration. The resort was not primarily to argumentation, but to careful, considered performance of such operations as generated in their course a recognition of their soundness and the soundness of the conclusions postulated. This way of conceiving interest-effort has thus become a stubborn objective consideration, which those who deal with this or related educational issues should take into account, just as one should take into account advances made in ways of discovering the intelligence quotient if that is involved in the issues. It has come, so far, to be regarded (first by Dewey, then by those who carefully performed his operations) as a dependable course of thinking and a dependable conception.

The bearing of such procedure for philosophic inquiry may be seen at a point where divergencies are most frequent. In the case of judgments of relative place to be given various factors of experience, such as the æsthetic, the scientific, the social, the creative, or the practical, in the school, it may be held that there is always an element of arbitrariness. Such judgments can be made only in light of the experience and philosophic viewpoint of the judges. But the quality of the arbitrariness may be changed by making explicit the reasons for such choices in view of the most likely personal-social consequences. Though this is always at any given time largely a matter of best judgment, judgments will probably be less divergent when underlying motives and evidences are thus made explicit. Such appeal to evidences and open criticism amounts practically to an elimination of the arbitrary, as long as there is genuine search for fundamental ways of conceiving the issues and careful observation of consequences as various conceptions are tried out and modified in action.

The illustrations cited above might lead us to think of method as merely a matter of exactitude in observation or statement. But method in deliberation must be as much akin to art as to

science in its narrower connotations. In deliberation, method consists, in part, of such reëxamination of the various factors which enter into the process that there is a maximal possibility that advances may be made in the progressive reconstruction of the factors. In part it is skill achieved in the performance of such processes. From the standpoint of truth-falsity the improvement in methodology here may come along the line of exactness and comprehensiveness in statement. The evidences may be more clearly and fully indicated. But for purposes of stimulation such increase in dependability may come more by the use of apt illustration and such language as throws the imagination into new vistas or leads it through old familiar landmarks with refreshing insight. From this angle philosophy is a specialized method of critical artistic creation. Many of the materials for and stimuli to such reconstruction are arising constantly as changes occur in science, in social life, and in the thought world. By a continuing process of criticism and construction of the data of our changing experience and thought patterns and habits, we in some measure perpetually liberate ourselves and forge new instrumentalities of guidance and control in conduct and enjoyment. Philosophy itself may thus be regarded as a special method for the hygiene of human thought. It improves its dependability through the building and extension of thought patterns which assist in criticism and construction. It helps to increase the effectiveness of conceptions, sensitivities, and habits of thinking in dealing with this area of educational affairs.

But in a most fundamental way of conceiving the matter, there is no such thing as "scientific" method or "philosophic" method. There is only method of inquiry or procedure. So conceived it is more easily recognized that all dependable method manifests certain common traits, such as striving for impartiality, for clarity in indicating the operations by which conclusions are reached or acts are performed, for care and skill in presenting or testing proposals or findings in the light of the operations and their significance in experience (feeling, thinking, doing). It should then be clear that dependable method is present in some degree in all endeavors in which we seek more effective, orderly, systematic, controlled, representative, and impartial procedure. We should be in a better position to recognize the common bonds of unity in all dependable method, as well as to take cognizance

of the differences which arise as different functions are performed, e.g., in the physical sciences, in the social sciences, in philosophic inquiry, and in social action. It might then be more clearly recognized that developments of techniques or procedures in each of these special ranges of activity have certain contributions to make to method in all the other ranges. Thus philosophy has much to learn from methodology as developed in the special sciences, and the sciences may learn from the special techniques of philosophy and social interaction in so far as they have been developed.

There are doubtless those who will wish to emphasize differences in the methodology used or most desirable in science or in philosophy. It may be contended that science should seek greater exactness and less discussion of the meaning of its findings. Or it may be thought that philosophy is more akin to art, both in the way it reaches conclusions and in its manner of stating them. But perhaps philosophy should not discourage its own occupation by denying the usefulness of its techniques in scientific thought and communication. Indeed, it might occasionally regret that some scientific inquiry and interpretation are not better oriented with respect to the concepts and procedures employed. Nor need it claim as its exclusive right any means of creative thinking and stimulating statement which have sometimes been employed to good effect in scientific matters.

Perhaps it would be better to recognize that both science and philosophy may profit greatly from and with the other, and that each may in some degree specialize its attention to particular phases of method. Thus, whereas both may contribute to the development and interpretation of method, science may devote more time to its needs in dealing with its particular problems and philosophy may study more carefully the means whereby thinking and communication and comprehensive study can be made more precise and creative. This recognition is, of course, not so much one of some measure of achievement in mutual fructification of methodology, as a challenge to further endeavor in both science and philosophy, independently and coöperatively. It is a challenge for the increase of dependability beyond that already achieved.

In summary, philosophy is a branch of research which performs especially the functions of criticism, theoretical construction,

interpretation, and suggestion. The criteria of its dependability are therefore properly relative to those functions. It must strive both for exactness in use of fact and for artistic power in the envisagement and portrayal of the possible. It is ever in need of a wider range of reliable data and for increased skill in the making of decisions amid multiple demands and interests. The conception of philosophy as an on-going specialized process makes apparent the fallacious character of many misconceptions which we tend to hold about philosophy. The conception also signifies that the processes through which ideas are generated and tested are more often those of critical and creative group and individual deliberation or action. In these processes there may function in increasing degree such conceptions, sensitivities, and ways of response as make determination of the dependability of ideas more than mere personal taste or personal judgment. Such conceptions, sensitivities, and ways of response are the components of methodology through which our acts of criticism and theoretical construction are made more dependable.

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